PMF Sprint Report

AIRMO

High-Precision Methane Emissions Monitoring from Space

Emissions intelligence for oil & gas operators, regulators, and financial institutions. Combining SWIR spectrometry with micro-LiDAR on small satellites to deliver facility-level methane data — twice the accuracy of existing systems.

BEACHHEAD
EU Oil & Gas Operators
DACH-first, compliance-driven

EDGE
Dual-sensor (SWIR + LiDAR)
~50m GSD, 2× accuracy

CONVERSATIONS
48 logged
Day 1–10, same-day

HYPOTHESIS
v1 → v2.3
3 major shifts evidenced

THE BET

Where to play · What's the edge · Who proves us wrong · Falsifier named

BEACHHEAD

Head of Environmental Compliance / HSE Director at mid-to-large EU oil & gas operators (upstream production + midstream pipelines), DACH-first, expanding to Nordics and Benelux. These buyers face the EU Methane Regulation (2024/1787) deadline: OGMP 2.0 Level 5 measurement-informed inventories due by February 2027 for operated assets. They cannot comply with self-reported estimates. They need independent, facility-level, measurement-based methane data — and they need it before the regulatory clock runs out.

THE EDGE

AIRMO is building the first dual-sensor payload (SWIR pushbroom spectrometer + proprietary micro-LiDAR) small enough for an ESPA-class satellite. The LiDAR corrects for atmospheric interference — aerosols, humidity, wind — that degrades spectrometer-only systems. Result: ~50m ground sampling resolution at 500km altitude, roughly 2× the accuracy of GHGSat or Sentinel-5P for facility-level attribution. Already proven on aircraft and drones across Europe, Central Asia, and MENA with paying customers (Uniper, TotalEnergies, ESCE). The sensor miniaturization is the moat: competitors either have accuracy (large sats, expensive) or affordability (small sats, noisy data). AIRMO collapses the trade-off.

COUNTER-VRIO

GHGSat (Montreal)

11 sats in orbit, CAD$173M raised. Spectrometer-only. Higher revisit frequency today but lower per-pass accuracy. No LiDAR correction. Dominant in North America; weaker EU presence.

Kayrros (Paris)

Analytics layer on public satellite data (Sentinel-5P, TROPOMI). Recently acquired by Energy Aspects. No proprietary sensor — dependent on third-party data quality and resolution limits.

In-house builds

Major operators (Shell, BP) experimenting with proprietary drone + ground sensor networks. High capex, no global scalability, and can't satisfy the 'independent third-party' verification requirement under the EU Regulation.

MethaneSAT

Jeff Bezos-backed. Lost contact with Earth in 2025 — presumed lost. Even if recovered, designed for area-wide measurement, not facility-level attribution.

FALSIFIER

"If 4 of 5 compliance leads at EU mid-major operators say they can achieve OGMP 2.0 Level 5 with their existing ground/drone networks alone — without independent satellite verification — then the regulatory pull is weaker than we think, and we pivot to voluntary ESG reporting buyers." Pre-committed Day 2. Tested against 14 compliance-side conversations. Result: 0 of 14 said existing networks are sufficient. Falsifier survived.

THE EVIDENCE

Volume + diversity · Same-day logging · Quotes not paraphrase · Buyers, not just bystanders

CONVERSATION LOG SUMMARY

48	14	11	9	8	6
Total conversations	Compliance / HSE leads	Procurement / buyers	Industry analysts	Adjacent (regulators, NGOs)	Brokers / consultants

All 48 conversations logged same-day in shared tracker. 42 include direct quotes. 6 early calls (Days 1-2) are paraphrase-only — team acknowledged gap and corrected from Day 3. Contradictions logged in a dedicated column, not hidden. 7 explicit contradictions flagged across the 48 entries.

KEY QUOTES FROM THE TRACKER

HSE Director, German mid-major (Day 3)

"We have ground sensors at 12 sites. They cover maybe 40% of our emission points. The regulation says measurement-based — that means everything, not a sample. We need someone who can see the whole facility from above."

Head of Procurement, Nordic operator (Day 5)

"GHGSat quoted us, but their accuracy numbers didn't hold up when we ran the validation. If your LiDAR correction is real, that changes the conversation. Show us the airborne data from a site we know."

VP Sustainability, DACH pipeline operator (Day 6)

"The budget isn't the problem. The problem is that we literally cannot get Level 5 data with what exists. We've been told 2027 is a hard deadline. Anyone who can deliver verified, facility-level numbers has my attention."

EU regulatory advisor, Brussels (Day 7)

"The Commission isn't bluffing on enforcement. The importers clause means even non-EU producers will need this. The market for third-party verification is about to explode."

Climate analyst, ESG fund (Day 4)

"We're screening O&G portfolios for methane intensity. Self-reported data is fiction. We need independent satellite data we can actually cite in our disclosures. Currently, nobody provides that at facility level with enough accuracy."

CONTRADICTIONS LOGGED

- 3 of 11 buyers said satellite data alone won't satisfy auditors — they want airborne + satellite combined (triggered v2 hypothesis shift).
- 2 of 9 analysts questioned whether micro-LiDAR has been validated in orbit, not just on aircraft. Technical risk flagged honestly.
- 1 regulatory advisor said the 2027 deadline may slip 6-12 months for non-EU importers. Team logged but did not change beachhead (EU-domestic operators unaffected).
- 1 NGO contact said smaller operators (<500 employees) will wait for industry consortia rather than buy directly. Narrowed beachhead to mid-to-large.

THE LEARNING

Hypothesis movement · Killed ideas · What we got wrong · Triggered by named calls

HYPOTHESIS EVOLUTION: v1 → v2.3

v1 · Day 1

LAUNCH BRIEF

"EU energy companies need better methane monitoring from space to comply with regulation." Broad. No buyer specified. No edge articulated beyond 'better accuracy.'

v1.5 · Day 3

TRIGGER: HSE Director call (Germany) + Procurement lead (Nordics)

Shift: Buyer is not 'energy companies' — it's compliance/HSE leads facing a specific regulatory deadline (Feb 2027). They don't want 'monitoring' in the abstract; they need OGMP 2.0 Level 5 data packages they can submit. Reframed from 'monitoring service' to 'compliance data product.'

v2 · Day 6

TRIGGER: 3 buyers independently said satellite-only won't pass audit

Shift: The product is not satellite data alone — it's a layered stack: satellite for global screening + airborne for facility-level quantification + reconciliation software for OGMP 2.0 reporting. The satellite is the top of funnel, not the whole product. Killed the 'satellite-only SaaS' model.

v2.3 · Day 9

TRIGGER: ESG fund analyst + 2 brokers said financial buyers are a real second segment

Refinement: Two buyer segments, not one. Primary: compliance-driven operators (regulated, deadline-bound). Secondary: ESG/climate funds screening O&G portfolios for methane intensity. Same data, different packaging. Kept beachhead on primary but validated secondary as expansion path.

KILLED IDEAS (WITH EVIDENCE)

✕ **Satellite-only SaaS model**

Killed Day 6. 3 of 11 buyers said satellite data alone won't satisfy their auditors under the EU Regulation. Auditors require reconciliation of satellite, airborne, and ground data. Led to the layered-stack pivot.

✕ **Self-serve analytics dashboard for smaller operators**

Killed Day 7. NGO contact + 2 brokers confirmed small operators (<500 employees) will buy through consortia or wait for industry-wide solutions. Not a direct-sale beachhead.

✕ **UK-first via Lloyd's insurance market**

Killed Day 5. 2 brokers in London said Lloyd's syndicates are interested but won't move before a regulatory mandate. UK has no equivalent to the EU Methane Regulation yet. Switched to DACH-first.

WHAT WE GOT WRONG

- We assumed 'better accuracy' was the selling point. It's not — the selling point is 'data that survives an audit.' Accuracy enables that, but the buyer cares about the output format, not the sensor spec.
- We assumed satellite would replace airborne. It won't — satellite is the screening layer that tells you where to send the drone. The two are complementary, not substitutes.
- We assumed the buyer was a CTO or data team. Wrong. The buyer is HSE/Compliance, reporting to the board, with a regulatory deadline. The CTO is an influencer, not a signer.

THE SYNTHESIS

BLUF · Frequencies + quotes · Pitch matches report · Specific over general

BLUF (BOTTOM LINE UP FRONT)

AIRMO sells regulatory compliance data — not satellite imagery — to HSE/Compliance leads at mid-to-large EU oil & gas operators who must achieve OGMP 2.0 Level 5 by February 2027. The product is a layered monitoring stack (satellite screening + airborne quantification + reconciliation software) that produces audit-ready emission reports. The edge is a dual-sensor payload (SWIR + micro-LiDAR) delivering 2× the accuracy of spectrometer-only competitors, already validated on aircraft with paying customers. First satellite launches early 2027 via EnduroSat.

EVIDENCE FREQUENCIES

SIGNAL	FREQUENCY	SEGMENT
'Can't reach Level 5 with existing tools'	**14 of 14**	compliance leads
'Need satellite + airborne combined'	**8 of 11**	buyers
'Accuracy matters more than revisit rate'	**7 of 9**	analysts
'Budget is not the blocker; deadline is'	**9 of 14**	compliance leads
'Would pay for pre-formatted OGMP reports'	**10 of 11**	buyers
'ESG funds need independent methane data'	**5 of 8**	adjacent (funds, NGOs)
'Small operators will wait for consortia'	**3 of 6**	brokers

WHAT CHANGED (DAY 1 → DAY 10)

Buyer persona:
Generic 'energy company' → HSE/Compliance Director at mid-to-large EU operator

Product framing:
Satellite imagery service → Layered compliance data stack (satellite + airborne + software)

Beachhead geography:
Global → DACH-first (strongest regulatory urgency, existing airborne customers)

Revenue model:
SaaS dashboard subscription → Annual monitoring contract with deliverable = audit-ready report

Competitive positioning:
'Better accuracy' → 'Only provider that survives a Level 5 audit at facility level'

NEXT TEST

Run a paid pilot with 1 DACH-based mid-major operator: deliver an OGMP 2.0 Level 5 data package for 3 facilities using existing airborne sensors. Success metric: the operator's auditor accepts the data package without requesting additional measurement. Threshold: if the auditor rejects the format or data quality, revisit the reconciliation software layer before satellite launch. Timeline: Q3 2026. Already in conversation with 2 operators (pipeline co. and upstream producer, both from the tracker) who expressed willingness to co-develop.

SCORECARD

Scored against the PMF Sprint Grading Rubric · Tracker read first, report second

VENTURE	AIRMO — High-Precision Methane Emissions Monitoring from Space
BEACHHEAD	HSE/Compliance leads, mid-to-large EU O&G operators, DACH-first
TEAM	Daria Stepanova (CEO), Errico Armandillo (CSO), David Vilaseca (CTO)

DIMENSION	WEIGHT	BAND	CALC	SCORE
The Bet	×1 (20%)	4 · Strong	4 × 1	**4 / 4**
The Evidence	×1.5 (30%)	3 · Solid	3 × 1.5	**4.5 / 6**
The Learning	×1.5 (30%)	4 · Strong	4 × 1.5	**6 / 6**
The Synthesis	×1 (20%)	3 · Solid	3 × 1	**3 / 4**
RAW TOTAL				**17.5 / 20**

DELTA BONUS

+2 — Major reframe. Buyer persona shifted (generic energy co → HSE/Compliance Director), product reframed (satellite imagery → layered compliance stack), geography narrowed (global → DACH-first). Each shift tied to specific named conversations in the tracker. The team articulated what they got wrong and showed the evidence trail.

RED FLAG CHECK

■ Hypothesis still at v1 on Day 10	NO — moved to v2.3 with 3 evidenced shifts
■ Zero conversations with buying role	NO — 11 procurement/buyer conversations logged
■ No same-day logging	NO — 42 of 48 logged same-day; 6 early calls paraphrase-only
■ Every assumption marked 'confirmed'	NO — 7 contradictions logged, 3 ideas killed
■ Pitch contradicts the tracker	NO — BLUF matches tracker evidence and frequencies

FINAL SCORE

19.5 / 20

Raw 17.5 + Delta Bonus +2 = 19.5
No red flags triggered. Score uncapped.
Band: EXCELLENT (17–20)