

AI is reaching operating fleets. Comparable returns remain hard to establish.

196 company-adoption profiles across 93 companies, October 2024–October 2026. Follow deployment, reported results and their original sources. This collection is not an industry census.

196

company AI projects
across 93 companies

133

described as operating
or scaled

54

report a realized
(measured) result

32

of those are reported
by the operator itself

1

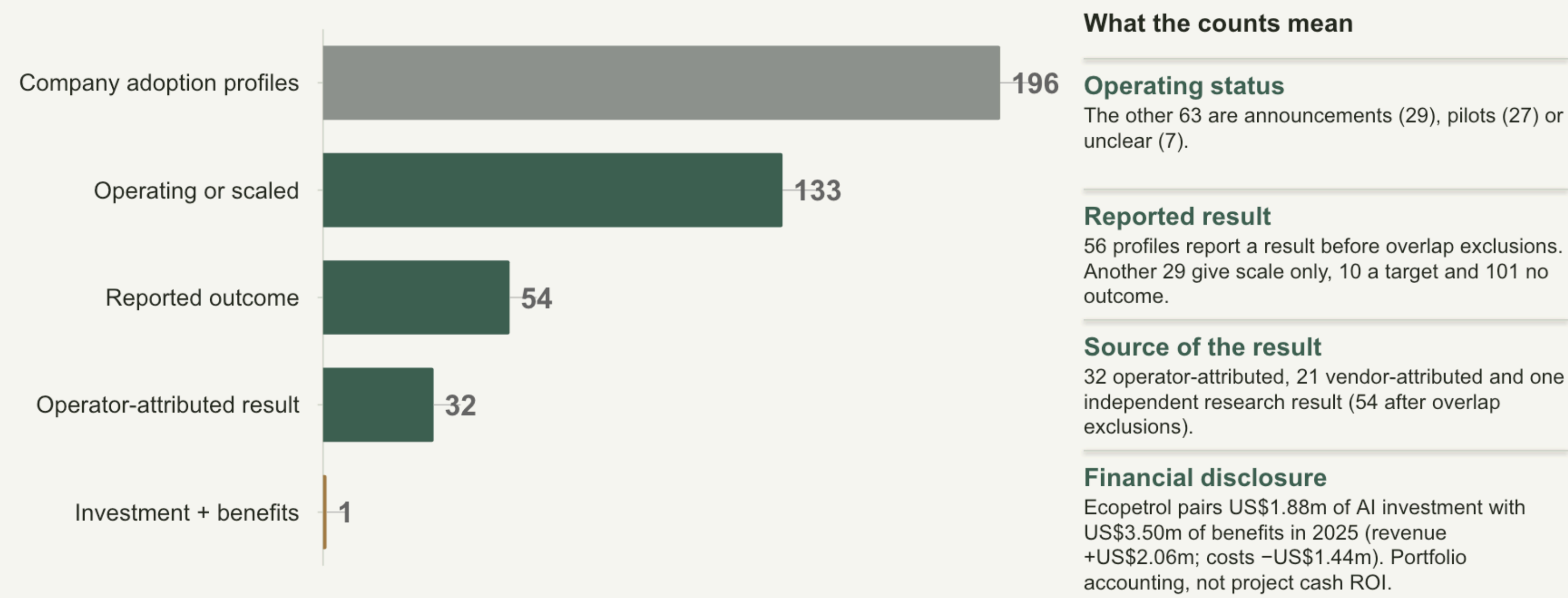
pairs AI investment and
financial benefits:
Ecopetrol's 2025 portfolio

What it means

- 1 Artificial lift has detailed fleet evidence.**
Devon runs autonomous lift on 1,000 wells, ExxonMobil gas-lift on 1,300+ Permian wells, Chord on ~99% of its rod-lift wells.
- 2 Pilot uplift does not establish fleet uplift.**
Devon's only uplift figure (2–3%) is from its 2025 pilot; no fleet result is published. Most gains lack a stated baseline.
- 3 Keep the author and the measurement scope visible.**
21 of 54 reported outcomes come from vendor sources. Our bounded search did not verify a named operator cancellation.

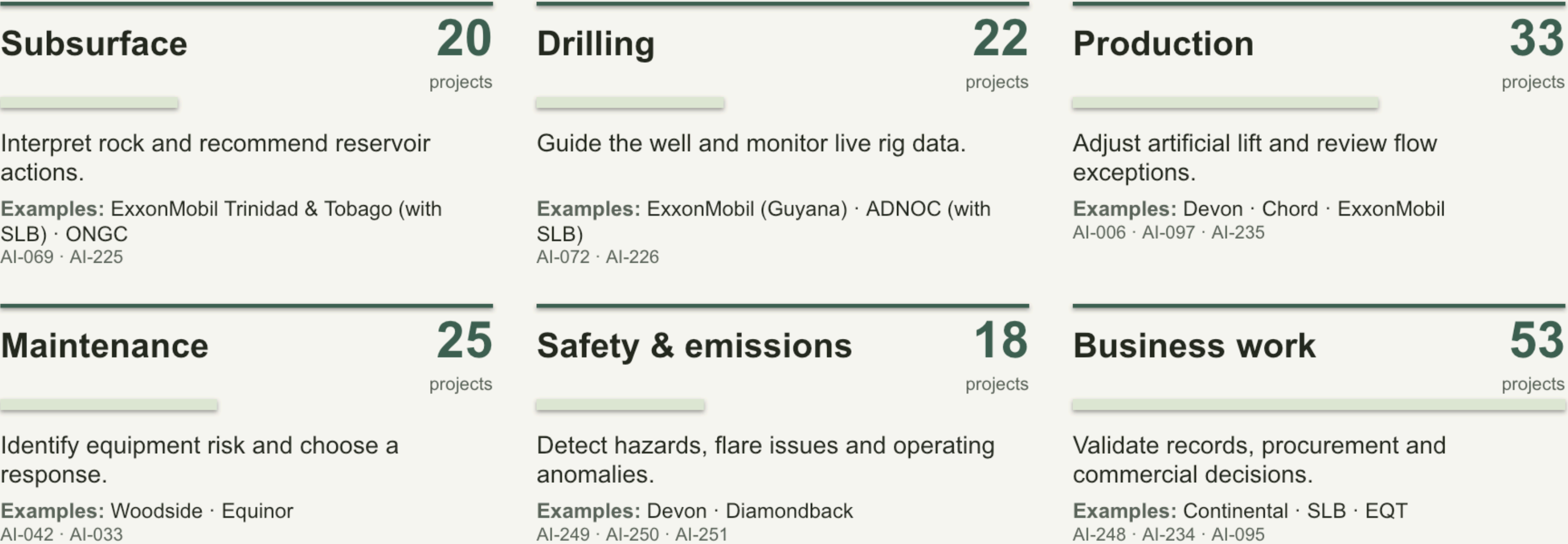
Public evidence: deployment, operating results and financial disclosure

These measures overlap. Some outcomes come from pilots. The 54 result profiles exclude two overlapping portfolio aggregates; stage descriptions come from operator, vendor and secondary sources.



AI in field operations: 33 of 196 projects concern production

Illustrative schematic, not a company architecture. Project counts by primary department; refining, trading and workforce projects are not shown.



14 priority operators: 48 adoption profiles across ten departments

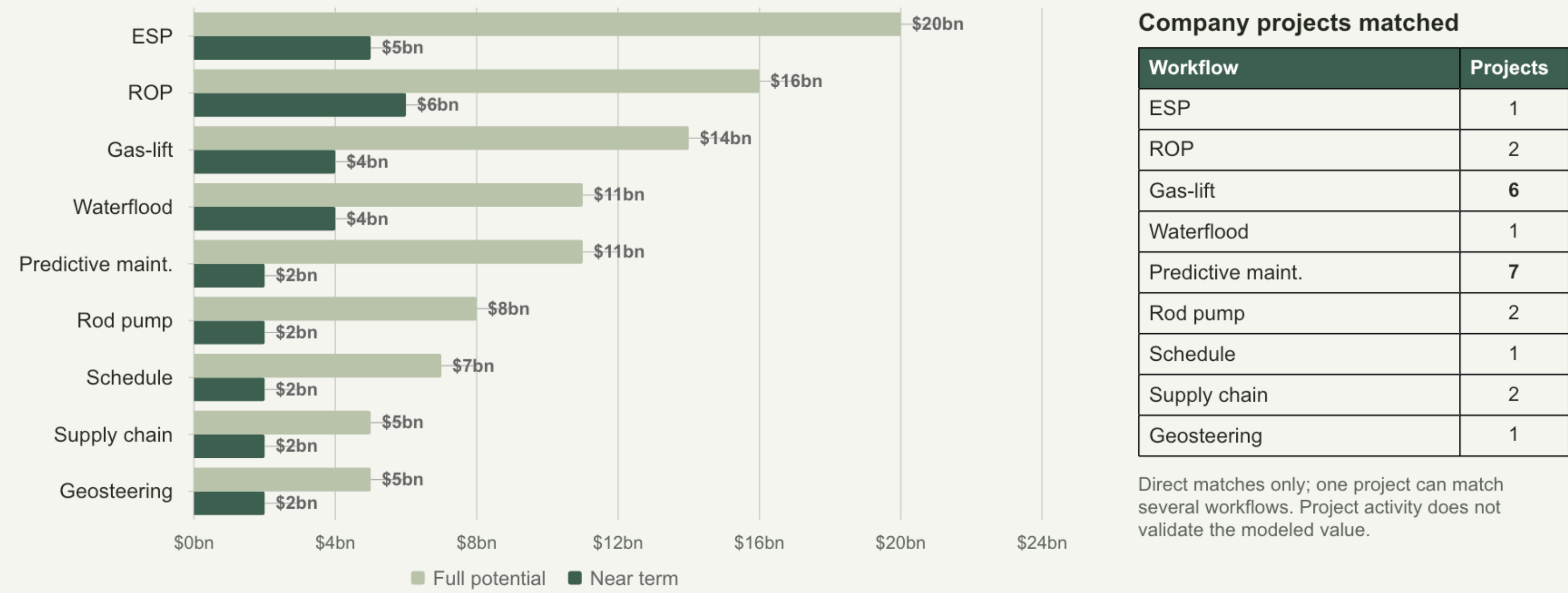
The cohort has 51 profiles; 3 in other departments are not shown. Shading uses the separate 20-profile deployment review. Counts describe public disclosure, not leadership or performance.

Company	Explore	Reservoir	Drill	Produce	Maintain	HSE	Supply	Legal	Finance	IT / data
EQT						1	1			
Continental Resources			1							
Chord Energy				1						
Devon Energy			1	1		2		1		
Diamondback Energy				1		1				
ConocoPhillips				1						
ExxonMobil	1		1	3			1			
Expand Energy			1	1						
Chevron	2	1		1		1	1			2
Shell					1	2				1
bp			1			2				
Equinor	1	1			3					
Aramco	1		1						1	1
ADNOC			1	2						1

 Includes a reviewed operating / scaled project  Reviewed pilot  Unassessed or not yet reviewed (plain)

McKinsey’s largest modeled pools — ESP (\$20bn) and drilling ROP (\$16bn) — have only 1–2 matching company projects

McKinsey Exhibit 2: modeled global annual value, US\$ billions. Full potential includes the near-term value; do not add the two series. Exploration (\$35bn) uses a reserve-value basis and is excluded.



Company projects matched

Workflow	Projects
ESP	1
ROP	2
Gas-lift	6
Waterflood	1
Predictive maint.	7
Rod pump	2
Schedule	1
Supply chain	2
Geosteering	1

Direct matches only; one project can match several workflows. Project activity does not validate the modeled value.

Devon scaled autonomous lift from 200 wells in March to 1,000 by August 2026 — its only uplift figure (2–3%) is from the 2025 pilot

Three Devon earnings-call disclosures. The March count was recalled in August; the pilot uplift was reported in May. These sources do not provide a fleet-level production or cash result.

2026-02-18

PILOT / ROLLOUT

Moving beyond pilots

Management links 2H-2025 lift trials to a broader 2026 rollout. No fleet result is quantified.

[Original disclosure \(earnings call transcript\)](#)

2026-05-06

SCALED

>850 wells live

Management reports a 2–3% production uplift from the earlier 2025 gas-lift pilot. That range does not measure the live fleet.

[Original disclosure \(earnings call transcript\)](#)

2026-08-05

SCALED

1,000 wells live

Real-time autonomous lift optimization now includes the first legacy Coterra wells; 2,000+ more wells are prospective.

[Original disclosure \(earnings call transcript\)](#)

Read-across for diligence: ask Devon-style adopters for a fleet-level comparison (treated vs. untreated wells, same period) — the pilot uplift cannot simply be multiplied by 1,000 wells.

The 10 results we reviewed in depth: 6 come from vendors alone, 3 from pilots — none pairs cost with cash

Amber text = vendor-reported or vendor co-reported. Ranges are not confidence intervals; scopes and baselines differ, so no average or ranking is implied.

Company · measure	Reported result	Who reports it	Stage	What is missing
Devon Energy Production uplift in pilot	2–3% uplift	Operator	Pilot result	Pilot well count and baseline; no fleet result
Chord Energy Rod-pump run time	25% longer run time	Operator	Scaled	Runtime cohort and comparison period
TotalEnergies / Microsoft Fault-cause identification	25–45% better	Vendor · Microsoft	Unassessed	Accuracy measure, sites, scale
Encino Energy / Ambyint Annual production decline rate	–1 pp decline	Vendor · Ambyint	Unassessed	Cohort size (344 wells on platform)
Encino Energy / Ambyint Venting events	62% fewer events	Vendor · Ambyint	Unassessed	Baseline frequency; no methane mass or cash
ConocoPhillips / OPX Ai Production versus forecast	3–4% above forecast	Vendor · OPX Ai	Pilot	Montney pad: well count, forecast method; four months
ConocoPhillips / OPX Ai Lease operating costs	5% lower LOE	Vendor · OPX Ai	Pilot	Montney asset: cost pool, well denominator
ADNOC / SLB Engineering effort	30–40% less effort	ADNOC + SLB (vendor)	Unassessed	Baseline time study
ADNOC / SLB Rig oversight capacity	2–3× rigs per engineer	ADNOC + SLB (vendor)	Unassessed	Prior load per engineer
Continental Resources / UiPath Manual validation time	5 min per email	Vendor · UiPath	Operating	Applies only to emails needing manual checks

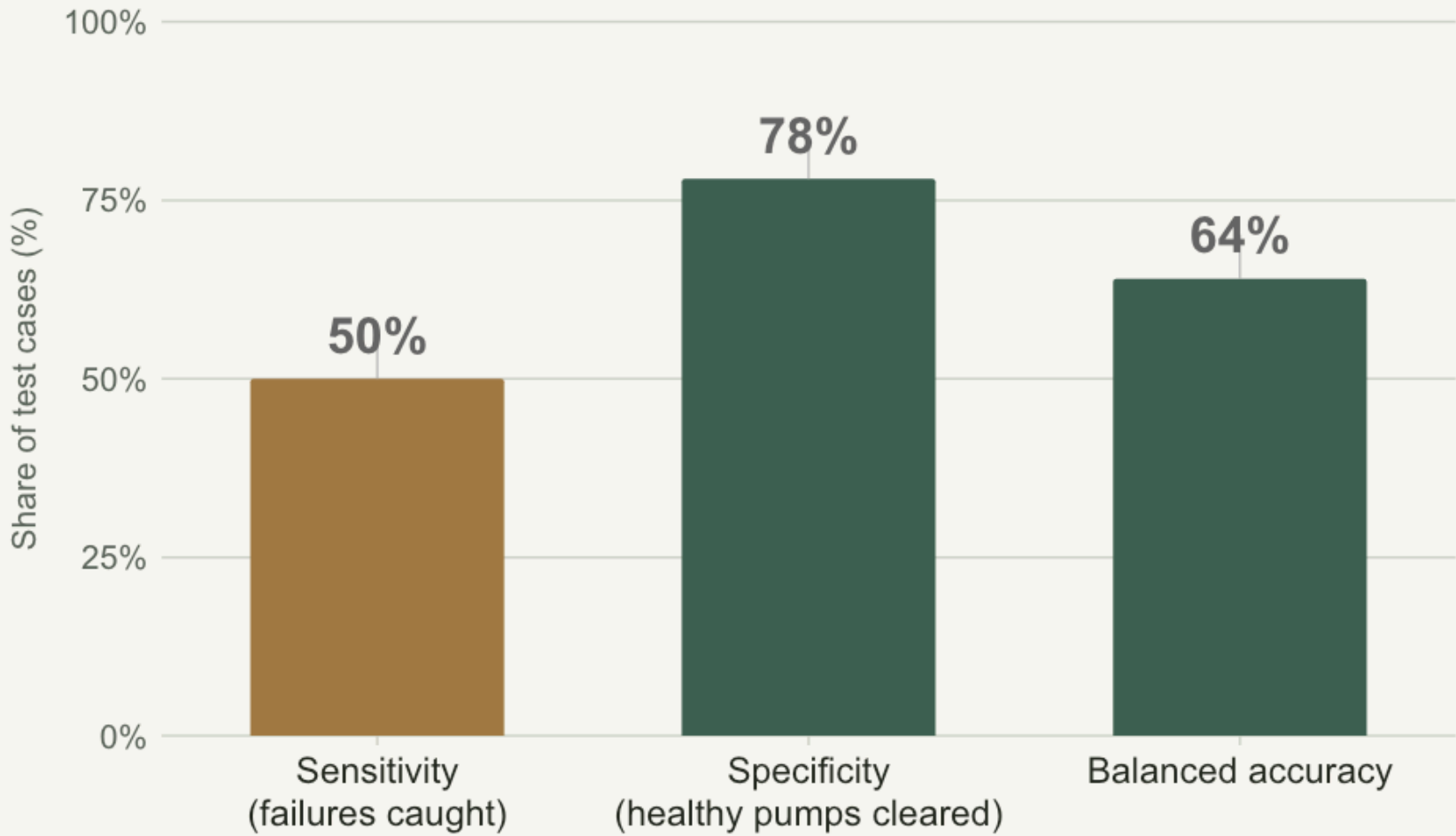
Four data-platform stories, no AI-only cash result — three rest on the vendor’s own case study

A data foundation (cloud, warehouse, automation) and an AI workflow are separate claims; the first does not prove the second pays.

Company	Platform and workflow	Who reports it	What the evidence supports
Continental Resources	Databricks + UiPath: agent-assisted validation of drilling and completion data arriving by email.	Vendor · UiPath case	~5 minutes saved per formerly manual email (not per all 200+ daily emails). No cash ROI.
Expand Energy	Snowflake / Snowpark / Cortex: forecasts, drilling analytics, SCADA site alerts.	Vendor · Snowflake case (operator release confirms relationship)	Vendor estimate of 1,000+ labor hours a year in one unit; not a production uplift.
Devon Energy	Snowflake + Whitson: daily bottomhole-pressure calculations for 5,000+ wells.	Vendor · Snowflake case	Physics workflow in use; AI attribution not established. A \$50,000 sensor comparison is not realized savings.
EQT	Context Labs: production and emissions data integration.	Operator · ESG report (AI described by vendor)	Integration completed in 2024; no named AI model, price premium or emissions reduction.

An ESP model missed 9 of 18 test failures. The client then approved deployment.

Baker Hughes, SPE-221571-MS (October 2024; vendor-authored; operator unnamed; three Americas assets, 137 ESPs). Pre-deployment retrospective test on 18 held-out failures; the client then approved deployment.



9 of 18

held-out pump failures were missed in pre-deployment testing

Five of the nine were short circuits. Ten-minute telemetry and missing sensor data limited what the model could see.

The paper also reports successful interventions (scale and grounding caught early). Misses and deployment coexisted — the vendor published both.

One vendor study, not an industry failure rate. Metrics use different denominators (failures vs. healthy pumps).

[Technical paper SPE-221571-MS · pp. 4–7](#)

No operator AI cancellation was verified in this review.

5 October: 34 searches across 13 paths. The 6 October follow-up found Devon paused further video-AI development to prioritize other work. This is not a verified failed deployment or cancellation.

0
verified operator AI
cancellations in this review

27%
say emerging tech delivers;
EY oil, gas & chemicals, n=508

85%
cite difficulty scaling
successful pilots (EY, 2025)

Vendor contracts were renewed, not ended: C3 AI–Baker Hughes through June 2028; C3 AI–Shell extended June 2026.

Case	What happened	How to read it
Equinor · Havtil order · 19 Dec 2025	Novos rollout expanded before qualification was demonstrated. Havtil ordered qualification before further rollout (deadline 1 June 2026).	Automation order; the regulator does not label Novos AI or report a malfunction.
Vår Energi · Havtil audit · 5 Feb 2026	Automation qualification (regulator order): three non-conformities in how automated drilling is risk-assessed and qualified.	Not described as AI. Criteria must exist before systems are used.
SLB · Microsoft case · Aug 2025	Unreadable shipping documents go to a person, a new template or retraining.	An exception step inside a vendor success story; no exception rate.
Oxy · SPE webinar · Oct 2025	Phase two of a construction-safety vision pilot hit limited site connectivity.	Phase one described as successful; no cancellation.
NORCE / UiS / Stanford · 2021 benchmark	Repeated runs of the same geosteering AI took different well paths.	Virtual benchmark, not a well; average matched human teams.
Novi Labs · July 2023	Barrels and gallons mixed in completion data distorted a forecasting pilot.	Outside the window; data error corrected.

Rows 3–6 describe limitations, not cancellations. The current map has 158 named relationships and 2 unconfirmed leads.

Choose the workflow for the asset. Establish the baseline and the economics.

Practical questions for an operator or investor, drawn from the reviewed deployments and their limits.

Operator playbook

1 Check whether the workflow fits the asset.

Devon, ExxonMobil and Chord describe fleet deployment of lift controls. Their lift types, asset conditions and measured outcomes differ.

2 Set the baseline and a control group before the pilot.

Keep untreated comparison wells after scale-up, so the fleet has a result — not just the pilot.

3 Qualify the system and fix the data.

Ten-minute telemetry and sensor gaps limited the ESP model; a barrel/gallon mix-up distorted a forecast. Norway's regulator required qualification before further automation rollout.

Investor diligence checklist

☐ Who reports the number?

Operator filing or call vs. vendor case study or partner release.

☐ Pilot or fleet?

The denominator in the result cohort: wells, rigs, assets, users.

☐ Against what?

Baseline, comparison group and measurement period.

☐ At what cost?

All-in cost and cash conversion. Ecopetrol reports portfolio benefits, not project payback.

☐ What failed?

Missed alerts, exception rates, and any projects stopped.

Sources: every figure links to its original publication

Click any line to open the original. Speaker notes on each slide list that slide's sources; the interactive site holds the full register and dossiers.

[Ecopetrol 2025 sustainability annex \(Circular 031\), p.209](#)

www.ecopetrol.com.co

[Devon Energy · Moving beyond pilots](#)

s2.q4cdn.com

[Devon Energy · More than 850 wells live](#)

s2.q4cdn.com

[Devon Energy · 1,000 wells live](#)

s2.q4cdn.com

[Chord Energy · About 99% of rod-lift wells](#)

ir.chordenergy.com

[Chord Energy · Artificial-lift optimization continues](#)

ir.chordenergy.com

[ExxonMobil · More than 1,300 Permian wells](#)

jpt.spe.org

[ExxonMobil · AI monitors production bottlenecks](#)

corporate.exxonmobil.com

[McKinsey · AI's \\$230 billion upstream pay zone, Exhibit 2](#)

www.mckinsey.com

[Chord Energy · Rod-pump run time](#)

ir.chordenergy.com

[TotalEnergies / Microsoft · Fault-cause identification](#)

www.microsoft.com

[Encino Energy / Ambyint · Annual production decline rate](#)

www.ambyint.com

[ConocoPhillips / OPX Ai · Production versus forecast](#)

jpt.spe.org

[ADNOC / SLB · Engineering effort](#)

adnoc.ae

[Continental Resources / UiPath / Databricks · Manual validation time](#)

www.uipath.com

[Expand Energy · Snowflake / Snowpark / Cortex](#)

www.snowflake.com

[Devon Energy · Snowflake + Whitson](#)

www.snowflake.com

[EQT · Context Labs DaaS / emissions data framework](#)

esg.eqt.com

[SPE-221571-MS, pp. 4–7](#)

dam.bakerhughes.com

[Havtil · Order to Equinor \(automated drilling\)](#)

www.havtil.no

[Havtil · Vår Energi audit \(automated drilling\)](#)

www.havtil.no

[EY Future of Energy Survey 2025 \(n=508\)](#)

www.ey.com

[SLB · Some shipping documents still needed a person](#)

learn.microsoft.com

[Oxy · Remote-site connectivity became a pilot question](#)

connect.spe.org

[NORCE / UiS / Stanford · Repeated geosteering runs produced different paths](#)

www.norceresearch.no

[Novi Labs · Unit mismatch in an anonymous forecasting pilot \(2023\)](#)

novilabs.com