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CASE STUDY · MARLUC SYNOPSIS

Recursion: pipeline cuts after the Exscientia merger, then new trial data

IMPLEMENTED 2024–2026 · HEALTH AND LIFE SCIENCES · US · BAND C · CLAIMED ONLY

VERSION 1.0 · PUBLISHED 20 NOVEMBER 2026 · UPDATED 20 NOVEMBER 2026 · FACTS CHECKED 20 NOVEMBER 2026

Recursion, built around AI from the start, combined with Exscientia in 2024, then cut its pipeline from 11 to 7 programmes and about 20% of staff in 2025 after weak trial results. A new chief executive took over in January 2026. In November 2026 the company reported positive phase 2 data for REC-4881 and partner milestones; no drug has reached the market.

ABOUT THIS SYNOPSIS

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Facts and figures are as reported by the sources listed below, which may be incomplete, self-reported or out of date. Check the original source before relying on any figure.

The impact band, proof marker and SEAM view are MarLuc's opinion. The organisation is not a MarLuc client and has not reviewed or endorsed this synopsis. Names and trademarks belong to their owners.

NOTICE WORDING LAST UPDATED 16 NOVEMBER 2026

AT A GLANCE

Frontier case: AI used for a scientific, medical or engineering breakthrough. The transformation is potential and unproven; MarLuc grades what has changed in practice so far.

AI-native company: built around AI from the start and attempting transformational change. It claims band A; MarLuc grades it on what is evidenced.

AI used: AI-native drug discovery platform (the Recursion OS): AI foundation models over large cell-imaging and genetic maps of biology, plus AI-assisted chemistry.

Implemented: 2024–2026. Grade: band C, Process change, Claimed only.

Headline result, as reported: Recursion cut its pipeline from 11 to 7 programmes and 20% of staff in 2025, changed chief executive, then reported positive phase 2 data for REC-4881 in November 2026, by its own account

1 · The case

The facts, as reported by the 4 sources listed at the end. Where a source is silent, the field says "Not reported".

Organisation

Recursion Pharmaceuticals. US AI-native drug discovery company based in Salt Lake City, founded in 2013 and listed on Nasdaq. GEN put the 2025 restructuring at about 160 jobs, 20% of the workforce. Canvas block: 1. Strategy and value. Also 6. Data and technology, 5. People and organisation.

Business challenge

The challenge. Recursion set out to use technology and data to change how drugs are discovered; in 2014 its co-founder promised 100 drugs in 10 years, per STAT. After combining with Exscientia it had more programmes than it could fund.

How it was addressed. In May 2025 the company ended REC-994 and REC-2282, sought a licensee for REC-3964, paused REC-4539 and dropped a preclinical programme, leaving six active programmes. It restructured, changed chief executive in January 2026 and in October 2026 chose to seek partners for the Exscientia-origin REC-617 and REC-3565. It continued its Roche and Genentech and Sanofi collaborations. [1] [2] [3] [4]

Who implemented it

In-house (In-house): Recursion: Built and runs its AI platform and internal drug pipeline..
In-house (In-house): AI drug design company combined into Recursion in 2024; source of REC-617 and other programmes..
Roche and Genentech (Industry partner): Collaboration partner that helped build neuroscience maps and exercised a target option, by Recursion's account..
Sanofi (Industry partner): Collaboration partner that optioned the first development candidate, by Recursion's account..
REC-4881 was in-licensed from Takeda, per Pharmaceutical Technology.

Technology (SEAM pillar E)

SEAM types: T5 Custom / fine-tuned models, T8 Predictive / ML models. Deployment: Not reported. Vendors and products: Recursion OS.

Where it was built in: Built into Recursion's own discovery pipeline and its partner work: phenotypic screening with proprietary AI foundation models, maps of biology built with Roche and Genentech, and molecule design, followed by conventional clinical trials.

What changed

Before: a broad pipeline of 11 programmes after the Exscientia combination. After: five internal programmes in its Q3 2026 release, two programmes offered for partnering, a new chief executive and chair, and partner milestones reported. How the company finds drugs is unchanged; what it funds has narrowed. [1] [2] [3] [4]

What it cost

Exscientia combination valued at $630.1 million, per GEN. Net loss $119.0 million in Q3 2026 against $162.3 million a year earlier, by the company's account. About 160 jobs cut in 2025.

What it saved

Not reported as savings from AI. The company reports lower general and administrative costs and a cash runway extended into 2029, partly from an October 2026 share offering. [1] [2] [3] [4]

Governance and control

Board and leadership changed: Najat Khan became chief executive in January 2026 and Fred Hassan chair in October 2026. A placebo-controlled phase 2 trial tested REC-994. AI-specific controls: Not reported.

S2 · Accountable owner · Claimed
Najat Khan, previously chief R&D and commercial officer, became chief executive on 1 January 2026, succeeding co-founder Chris Gibson; Fred Hassan became chair in October 2026. [3] [4]

A1 · Safe use · Not reported
Not reported.

A2 · Human in the loop · Claimed
By the company's account, targets predicted from its maps were jointly validated with Genentech, and only targets with consistent evidence moved forward. [4]

A3 · Monitoring and assurance · Evidenced
A 62-patient phase 2 trial of REC-994 met its primary endpoint on safety but did not show meaningful clinical benefit, and the company ended the programme, per Pharmaceutical Technology. [1]

A4 · Vendor AI · Not reported
Not reported. The platform is the company's own.

A5 · Agent controls · Not reported
No agents described.

A6 · Standards and regulation · Claimed
By the company's account, REC-4881 holds FDA Orphan Drug and Fast Track designations and a registrational trial depends on ongoing FDA discussions; no regulator action on the AI is reported. [4]

What worked, what did not, what is unproven

WORKED

– REC-4881 phase 2: 12 weeks after stopping treatment, 85% of evaluable patients (11 of 13) remained below baseline polyp burden, by the company's account.

– Sanofi optioned the first development candidate from its collaboration, with phase 1 expected in 2027, and Genentech exercised a target option, by the company's account.

– Recursion reports $216 million in upfront and milestone payments from Roche and Genentech to date.

DID NOT

– REC-994 met its primary safety endpoint in a 62-patient phase 2 trial but did not show meaningful clinical benefit, and was ended, per Pharmaceutical Technology.

– The pipeline was pruned from 11 to seven programmes and 20% of the workforce was cut in 2025, per GEN.

– STAT reported that the 2014 promise of 100 drugs in 10 years has not materialised and no drug has reached the market.

UNPROVEN

– Whether REC-4881 works in a registrational trial; the company expects to start one in the second half of 2027, pending FDA discussions.

– Whether AI shortens time or cost to an approved drug: no independent measure in the sources used.

Timeline

2024 Recursion combines with Exscientia; GEN reports a deal value of $630.1 million [2]

May 2025 Recursion ends or pauses five programmes, including REC-994 after a phase 2 trial without meaningful clinical benefit; shares fall 13.4% [1]

2025 A restructuring removes 20% of the workforce, about 160 jobs, per GEN [2]

Nov 2025 Recursion names Najat Khan to succeed co-founder Chris Gibson as chief executive from 1 January 2026 [3]

Oct 2026 Recursion decides to seek partners for the Exscientia-origin programmes REC-617 and REC-3565 rather than fund them itself [4]

Nov 2026 Company reports phase 2 TUPELO data for REC-4881 in familial adenomatous polyposis and a Sanofi option on a development candidate [4]

2 · Grade and SEAM assessment

MarLuc's opinion, made on the evidence above. How cases are graded: marluc.co.uk/case-studies/how-we-rate

Level of change and impact

Claimed: A. Grade: C, Process change. Proof: Claimed only. Level of change: Process change.

Process change (Level 2, band C): discovery run around an AI platform, with partners acting on its outputs. Claimed A: the company describes a new blueprint for making medicines with AI. That is potential and unproven.

Graded C. Drug discovery at Recursion is run around its AI platform, and partners have paid milestones and taken an AI-derived candidate and target forward, by the company's account. The evidence for better drugs is not there yet: no approval, a phase 2 programme ended for lack of clinical benefit, about half the pipeline cut, and the positive REC-4881 data are the company's own report from an ongoing trial. The company describes a new blueprint for making medicines with AI; MarLuc treats that transformation as potential and unproven.

The SEAM view and lessons learnt

Recursion's results so far are shaped as much by capital and portfolio choices (an acquisition, programme cuts, a share offering, partner deals) as by its AI, and the sources do not separate the two. The partner milestones show other companies acting on its outputs; the clinical record is mixed and mostly self-reported. Before copying the approach, a leadership team should ask which steps the AI actually changed in each programme, and what the economics look like if the first approvals take longer than planned.

1. Fund AI programmes stage by stage and stop those the data do not support.
2. Report how each candidate was found, including in-licensed ones.

Evidence

Score 2 of 4. Mixed: positive results and partner milestones come from the company's own release; cuts, failures and leadership change are reported by Pharmaceutical Technology, GEN and STAT.

Evaluation method. Company results release (Q3 2026) plus independent trade and science press; ongoing, open-label or early trials; no regulator decision on approval.

Sources disagree. Recursion says the REC-4881 opportunity was identified through its AI foundation models; Pharmaceutical Technology describes REC-4881 as in-licensed from Takeda and said in May 2025 that AI had yet to deliver a late-stage success at Recursion.

Status. Ongoing: REC-4881 registrational trial planned for the second half of 2027, pending FDA discussions; no approved drug.

3 · Original sources

Read these in full. To challenge a fact or a grade, use the contact form at marluc.co.uk or the link on https://marluc.co.uk/case-studies/recursion-pipeline-reset-after-exscientia-merger

[1] Pharmaceutical Technology: Recursion axes drug programmes to streamline pipeline (6 May 2025)
https://www.pharmaceutical-technology.com/news/recursion-axes-drug-programmes/

[2] GEN: StockWatch: Recursion Slides on Data Update as New CEO Named (9 November 2025)
https://www.genengnews.com/topics/artificial-intelligence/stockwatch-recursion-slides-on-data-update-as-new-ceo-named/

[3] STAT: Recursion CEO Chris Gibson out as company head after 12 years (5 November 2025)
https://www.statnews.com/2025/11/05/recursion-ceo-chris-gibson-out-najat-khan-new-head/

[4] Recursion (GlobeNewswire, via Finviz): Recursion Reports Third Quarter 2026 Financial Results (2 November 2026)
https://finviz.com/news/413647/recursion-reports-third-quarter-2026-financial-results-and-extends-cash-runway-highlights-positive-clinical-data-in-rec-4881-and-rec-1245-sanofi-development-candidate-option-and-appointment-of-fred-hassan-as-chair

Recursion Pharmaceuticals website: https://www.recursion.com

Version 1.0 · Published 20 November 2026 · Updated 20 November 2026 · Facts checked against sources 20 November 2026 · Downloaded 26 November 2026. This PDF may be out of date: the latest version, and a way to report an error or a better source, is at https://marluc.co.uk/case-studies/recursion-pipeline-reset-after-exscientia-merger

VERSION HISTORY

v1.0 20 November 2026 First published