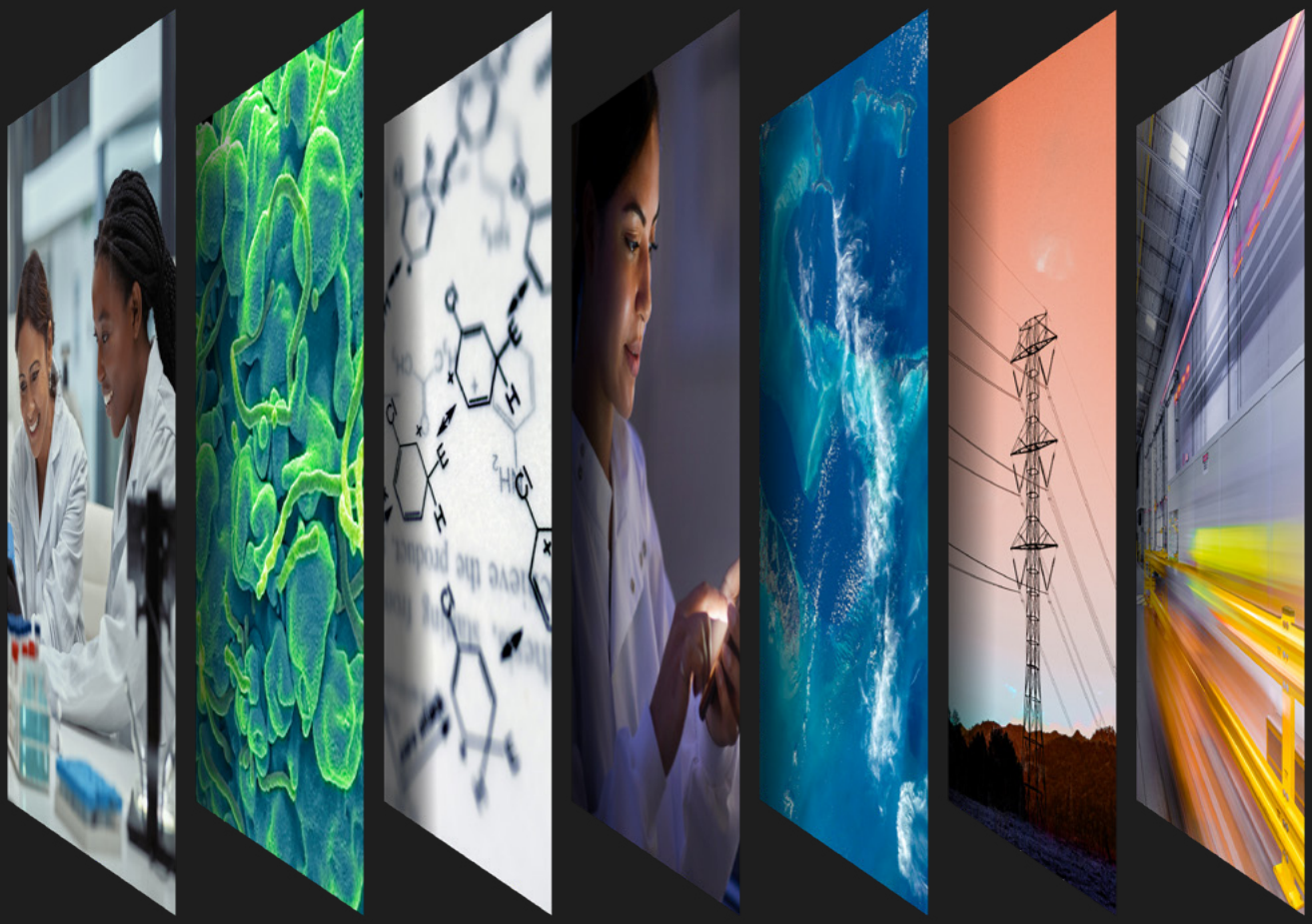
User insights: Corporate R&D trends

Four cross-cutting trends reshaping the day-to-day work of R&D scientists and engineers



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Contents

Executive summary 3

Why this overview? 5

Trend 1
AI as digital labor:
Buying intelligence on tap **6**

Trend 2
Sustainability is core: `
Waste is no longer tolerated **7**

Trend 3
Evidence overload:
Drowning in data, starving
for insight **8**

Trend 4
Regulatory accountability:
Every decision needs a
paper trail **9**

What's next? 10

References 11

From insights to action 12

Too many variables, too little time

Global R&D investment has tripled to $2.75 trillion since 2000[1]; however, fewer than half of researchers feel they have enough time, and two-thirds face increasing pressure to publish and make an impact[2]. Half already use AI for literature reviews[2], with thousands of companies setting climate targets covering 39% of the global market cap[3].

If used well, AI has the potential to improve outcomes

For chemists, engineers and specialists in life sciences and technology, these trends require faster results, stricter compliance and clear evidence of economic and environmental value. The challenge is to find the information you need more quickly to make better decisions – whether it's navigating patents, trials and regulators in life sciences or materials, processes and ESG in engineering. This overview demonstrates how AI tools based on trusted content are assisting researchers in navigating this complex landscape.

Top takeaways:

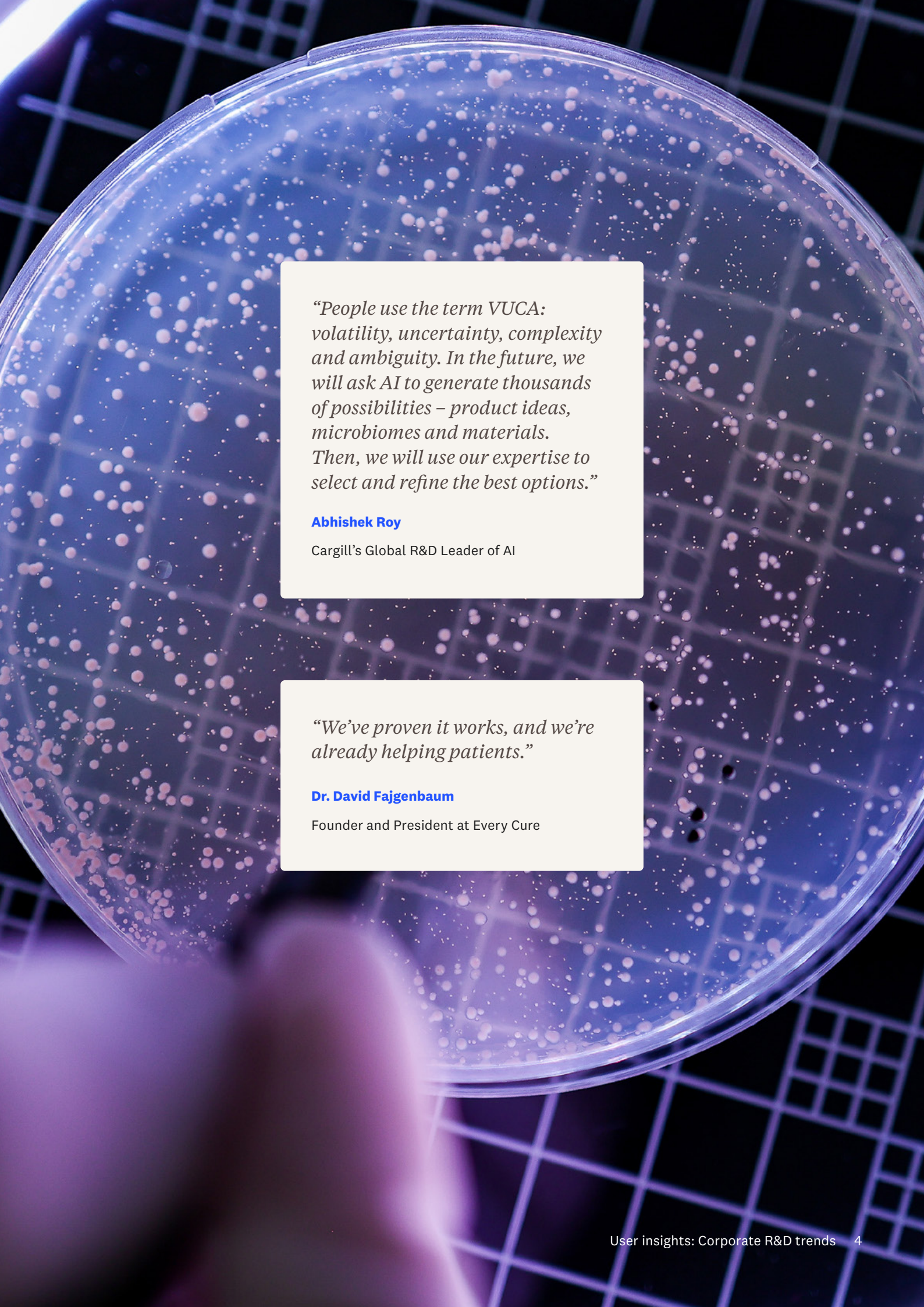
- AI has moved from exception to norm in corporate R&D
- Sustainability has become an intrinsic part of innovation across industries
- Researchers increasingly need AI systems that provide clear evidence pathways, transparent methods and auditable data sources, so they can review and validate the information behind each output
- Evidence increasingly needs to be traceable, explainable and compliant



[1] Elsevier, Corporate Researcher of the Future report (2025, subset of 122 corporate researchers from the Researcher of the Future study)

[2] Elsevier, Researcher of the Future (2025, 3,200 researchers across 113 countries are adapting to this rapid change.)

[3] Science-Based Targets initiative, SBTi Trend Tracker (2025)



“People use the term VUCA: volatility, uncertainty, complexity and ambiguity. In the future, we will ask AI to generate thousands of possibilities – product ideas, microbiomes and materials. Then, we will use our expertise to select and refine the best options.”

Abhishek Roy

Cargill’s Global R&D Leader of AI

“We’ve proven it works, and we’re already helping patients.”

Dr. David Fajgenbaum

Founder and President at Every Cure

Why this overview?

This overview highlights four trends in corporate R&D, drawing on insights from scientists and engineers through survey data and their own words to illustrate how these trends impact daily workflows.

Gain the essential insights needed to make informed R&D decisions with Elsevier's portfolio of solutions, built on trusted quality information, innovative technology and scientific expertise. Validate new concepts, transition from early research to development and improve innovation outcomes with intuitive tools designed for R&D workflows.

Let's shape human progress together.

AI as digital labor: Buying *intelligence on tap*

78% of organizations use AI in a business function, up from **55%** in 2023.[1]



Leaders are deploying **AI agents** to automate and enhance workflows.[1]

For R&D scientists and engineers, AI is becoming a practical and much-needed "extra pair of hands" for search, scanning and first-pass analysis, helping them cope with rising information loads and decision pressure while maintaining overall control.

According to users...

84% of researchers have used AI tools, **54%** in their work [2]

58% say AI tools already save them time and **69%** expect future time savings, yet only **22%** say they trust existing tools.[2]

Repetitive work is being delegated to AI: the search for connections and insights across multiple sources and disciplines. Instead of spending hours jumping between tools, researchers can focus on assessment and decisions.

"When people see someone doing their work twice as fast as they are, they will naturally become curious. They will wonder, 'How is this possible?'"

John Vlahos
Senior Associate Scientist at Regeneron

"AI is not magic. It's a tool that will help you decide what to make – and that's already good enough."

Brice Hoffmann PhD
Principal Scientist, Head of Computational Chemistry at Iktos

[1] Stanford University, Human-Centered Artificial Intelligence (HAI), 2025 AI Index Report (8th edition, comprehensive global AI trends)

[2] Elsevier, Researcher of the Future (2025, 3,200 researchers across 113 countries are adapting to this rapid change.)

Sustainability is core: Waste is *no longer tolerated*



Global emissions must fall 42% by 2030; current policies are far off track.[1]



Nearly **11,000 companies** worldwide now hold science-based climate targets.[2]



Environmental risks – weather, biodiversity, resources – top the 10-year global risk rankings.[3]

R&D teams now face hard constraints on waste, driving widespread adoption of green chemistry, sustainable materials development and renewable energy integration across processes and manufacturing.

According to users...

67% of researchers report increased emphasis on mission-oriented research, which often align with UN Sustainable Development Goals.[4]

50% believe research must deliver real-world benefits in quality of life or reducing environmental impact.[4]

Whether you're pursuing a cancer cure or better carbon capture, the path must be validated in terms of both performance and risk.

"Sustainability is at the core of everything we do. We focus on helping chemists develop cleaner syntheses, more efficient manufacturing processes, and prevent pollution."

Alexei Lapkin, PhD
Co-founder, CDI, Professor of Sustainable Reaction Engineering, University of Cambridge

"I'm excited about when general-purpose technology models get fused with very specific first-principles knowledge of climate, geospatial, physics, chemistry. That's when it becomes incredibly impactful."

Abhishek Roy
Cargill's Global R&D Leader of AI

[1] UN Environment Programme (UNEP), Emissions Gap Report 2024
[2] Science-Based Targets initiative, SBTi Trend Tracker (2025)
[3] World Economic Forum (WEF), Global Risks Report 2025
[4] Elsevier, Researcher of the Future (2025, 3,200 researchers across 113 countries are adapting to this rapid change.)

Evidence overload: Drowning in data, *starving for insight*



Global data volume is forecast to reach **291 zettabytes** by 2027.[1]

95% of GenAI pilots deliver no measurable value, largely due to the presence of scattered data and poor integration.[2]

Potential evidence is often buried in large, fragmented, and uncurated datasets. Without the right tools, integration and training, information overload can become a competitive liability.

According to users...

45% of researchers say they have enough time for research, while **68%** report that pressure to publish is only increasing.[3]

75% of corporate researchers agree that peer-reviewed research is trustworthy,[4] and **52%** say they would use AI more if the input data stayed confidential.[3]

For AI to fulfill its potential, researchers require both high-quality sources backed by proper guidance and reskilling. Peer learning groups help split the load of keeping current.

"Getting your data house in order is similar to what they say about growing a tree: the best time to start is 20 years ago. The second-best time is right now."

Ed Wright
Principal Information Analyst at Johnson Matthey

"AI right now is something of a party trick ... but the real value in its application is yet to be found. This is especially true in the engineering, science and technology industries, where the application of these tools often requires significant groundwork to start seeing results that are meaningful and trustworthy."

Chris Cogswell, PhD
Customer and Engineering Global Consultant at Elsevier

[1] International Data Corporation (IDC), Global DataSphere Forecast Update, 2025-2029
[2] MIT NANDA, The GenAI Divide: State of AI in Business 2025 (2025, analysis of 300+ public AI deployments, 150+ leader interviews, 350+ employee surveys)
[3] Elsevier, Researcher of the Future (2025, 3,200 researchers across 113 countries are adapting to this rapid change.)
[4] Elsevier, Corporate Researcher of the Future report (2025, subset of 122 corporate researchers from the Researcher of the Future study)

Regulatory accountability: Every decision needs a *paper trail*



Comprehensive laws such as the **EU AI Act** require strict transparency and oversight for high-risk AI systems.[1]



Sector rules on safety, data, privacy and ESG keep tightening across health, chemicals, energy and technology. For instance, U.S. federal agencies introduced 59 AI-related regulations in 2024, more than double the 25 in 2023 – covering sectors from health to technology.[2]

For R&D teams, it is no longer enough that a decision works in practice; every AI-assisted step and piece of evidence must be traceable, explainable and compliant – and the process may differ across regions.

According to users...

41% of researchers feel AI governance in their organization is strong.[3]

96% expect AI to be used for misinformation to some extent, and **84%** worry about critical errors.[4]

AI assistance is at hand: whether it's for documented searches and fully referenced evidence with audit trails, or for design decisions with traceable methods for safety and ESG reports.

"You need to stay very skeptical about what it does. You can't treat it like a religious text."

John Vlahos
Senior Associate Scientist at Regeneron

"We shouldn't be afraid of AI. Be tinkerers. Be open about how it's used. And never forget the ethics that underpin good science – they still matter."

Abhishek Roy
R&D Leader of AI, Cargill

[1] European Commission, EU AI Act (2025)
[2] Stanford University, Human-Centered Artificial Intelligence (HAI), 2025 AI Index Report (8th edition, comprehensive global AI trends)
[3] Elsevier, Corporate Researcher of the Future report (2025, subset of 122 corporate researchers from the Researcher of the Future study)
[4] Elsevier, Attitudes toward AI: Corporate Researchers (2024, subset of ~300 corporate researchers)

What's *next*?

Across all four trends, the message remains the same. The organizations that succeed are not those that boast the loudest about AI, sustainability or impact, but those that quietly redesign everyday work so that trusted data, transparent AI and clear governance are integrated into the workflows where decisions are actually made.

Researchers are already recognizing the benefits of this change: many say AI saves them time and they are generally confident this will only increase in the coming years. They also highlight that clear source citations and strong protections for input data are essential for them to use AI with confidence. If you are only starting, select two or three high-value use cases and enhance them, whether it's a faster route design or impurity assessment, a safer signal detection loop, or a more streamlined methods search for a new material or process.

By pairing these improved workflows with stronger training and governance, you can stay aligned with macro trends in AI, regulation and sustainability, and help turn them into advantages for you and your team. The next wave of corporate R&D will be built by people who treat AI as a disciplined, well-documented colleague sitting on top of the best evidence, not as a shortcut around it.

"To anyone, I would say to try it for 10 minutes every day. If it wins you over, what's the bad thing? You just have another tool in your belt."

John Vlahos
Senior Associate Scientist at Regeneron

"Think big but start small. Have a well-defined small use case that you can show success with, and then move from there. You can't boil the ocean."

Nathan Stewart
Applied AI Lead at Johnson Matthey

References

Elsevier, Corporate Researcher of the Future report (2025, subset of 122 corporate researchers from the Researcher of the Future study)

Elsevier, Researcher of the Future (2025, 3,200 researchers across 113 countries are adapting to this rapid change.)

Science-Based Targets initiative, SBTi Trend Tracker (2025)

Stanford University, Human-Centered Artificial Intelligence (HAI), 2025 AI Index Report (8th edition, comprehensive global AI trends)

UN Environment Programme (UNEP), Emissions Gap Report 2024

Intergovernmental Panel on Climate Change (IPCC), Climate Change 2023: Synthesis Report

World Economic Forum (WEF), Global Risks Report 2025

International Data Corporation (IDC), Global DataSphere Forecast Update, 2025-2029

MIT NANDA, The GenAI Divide: State of AI in Business 2025 (2025, analysis of 300+ public AI deployments, 150+ leader interviews, 350+ employee surveys)

European Commission, EU AI Act (2025)

Elsevier, Attitudes toward AI: Corporate Researchers (2024, subset of ~300 corporate researchers)

What these insights mean for corporate R&D

R&D intensive organizations in pharmaceuticals, biotech, medical devices, chemicals and materials, energy and technology all face a similar challenge: the volume of scientific and technical information is growing faster than the time available to interpret it. These insights highlight how that pressure is reshaping the day-to-day work of scientists and engineers. Elsevier works with these communities to provide connected, configurable solutions for R&D that bring together comprehensive data with analytical and AI enabled tools, supporting more structured use of evidence across workflows.

Elsevier solutions for corporate R&D:

- ScienceDirect
- Reaxys
- Embase
- Scopus
- PharmaPendium



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