IRI QUARTERLY TRENDS ANALYZER

2025

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About The Trends Analyzer

The IRI Quarterly Trends Analyzer examines the strategic environment in which innovation and R&D take place and flags up potential trends that you should factor into your strategic planning. At the end of each quarter, potential trends are examined by the IRI Foresights Advisory Board and assessed for their potential impact on innovation. In this report, key potential trends are described and vital questions you should ask yourself as you conduct your strategic planning are listed. In addition, we include some interesting possibilities ('weak signals') at the end of the report that we will keep an eye on to see if they will rise to the level of a bigger, impactful trend.

Innovation Research Interchange (formerly the Industrial Research Institute) is an inclusive membership organization with hundreds of global members in private-sector companies and federally funded laboratories. Founded in 1938, we lead and advance the field of innovation management by creating contemporary practices. Some of the world's most widely adopted models – such as "open innovation", "front end of innovation", and "stage-gate" – were born from the work of our members. We value strength in cooperation and partner with other organizations at the forefront of developments in innovation management, creating a hub for all to convene and contribute in an experimental, noncompetitive, and noncommercial environment. The IRI is a division of the National Association of Manufacturers.

July 2025 Trends

1 A Southern Manufacturing Resurgence

2 Alarm Bells for Future Scientists

3 Is R&D Ready for AI's Breakneck Pace?

A SOUTHERN MANUFACTURING RESURGENCE

The U.S. South is experiencing a growth in manufacturing. This appears to be driven by aggressive state-level incentives (from multimillion-dollar tax credits to workforce grants), infrastructure upgrades, and a union-free labor pool fueled by population growth due to a lower cost of living. This influx is transforming rural areas into advanced-manufacturing corridors, driving up industrial real estate absorption and reshaping regional labor markets. Aggressive tactics by states to win jobs and industry are not new. However, with increased uncertainty at the federal level, coupled with increased energy and resource demands from companies, we may begin to see more aggressive tactics by states or even states forming alliances to become more competitive for certain industries.

LEARN MORE

- Why the South is Unmovable When it Comes to Manufacturing (*Southern Magazine)*
- Map Shows Where Manufacturing is Growing (*Newsweek)*
- The American Dream Has Migrated South (*Reason* podcast)
- A Southern Town Embraces Its AR-15 Factory (*The Washington Post)*

ASK YOURSELF THESE QUESTIONS:

1. Do our current locations meet our needs?
2. What are our long-term resource needs? Where can those needs best be met?
3. What incentives are most enticing to us as a business?
4. Are there ways that we can ‘test the waters’ in a new area to see if it meets our needs?
5. How can we start building our networks in different regions to create new ecosystems?
6. How do we maintain cohesion across geographically dispersed facilities?
7. How will infrastructure needs (e.g., energy, data, transportation) be met — and who controls those resources?
8. What relationships do we have at the state and regional levels now? How could those relationships evolve as our needs change?

ALARM BELLS FOR FUTURE SCIENTISTS

Recent changes to federal research funding, including adjustments to budgets at institutions such as the National Institutes of Health (NIH), may have implications for innovation ecosystems across sectors. Reductions in support for certain programs could influence the pace of public-sector research and its historical contributions to private-sector advancements. As public investment in research and development shifts, businesses may need to consider how to adapt to potential changes in the innovation pipeline.

These shifts may also affect collaborations between private companies and federally funded research institutions. This moment presents an opportunity for organizations to explore new models of partnership—with universities, nonprofits, and other stakeholders—to help sustain progress in scientific discovery. How might industry fill emerging gaps, and what strategies could position it to play a greater role in advancing long-term innovation?

Finally, the funding cuts have had an immediate impact on the number of PhD candidates universities are able to support. Constricting the pipeline of scientists now will further exacerbate the challenges organizations face as Boomers retire, and they try to fill their roles. How can companies blunt the impact?

LEARN MORE

- Trump Asks Agencies to Cut $100 million from Harvard's Federal Contracts (PBS)
- UT loses 47 million in Research Grants Under Trump Administration (*Austin American Statesman)*
- As Trump cuts science budgets, some researchers look abroad (*The Washington Post)*
- U.S. Budget Cuts Are Robbing Early-Career Scientists of Their Future (*Scientific American)*

ASK YOURSELF THESE QUESTIONS:

1. In what ways are we reliant on basic research coming out of the federal government and universities?
2. What projects (short and long term) will be impacted by cuts to federal funding?
3. Looking at our long-range plans, how will those be impacted by current and potential cuts to research funding?
4. Do we need contingency plans in place to potentially rescue key initiatives at risk of collapse or defunding?
5. What alternative models are available for enabling basic and applied research? Are there examples from other countries that we can use?

ASK YOURSELF THESE QUESTIONS:

6 Are we too reliant on U.S.-based federal science infrastructure for our innovation strategy? Should we diversify geographically or internationally (e.g., EU, Canada, Singapore) for more stable R&D partnerships?

7 Do we have internal skills inventories, and succession plans in place for retiring scientists and senior technical experts?

8 Where will talent gaps be the most prevalent as Boomers retire?

9 Is it realistic to upskill bachelor's- or master's-level talent to fill PhD-level roles over time and what internal training, mentorship, or certification programs could fast-track promising candidates?

10 Can we create alternative "on-ramps" for researchers affected by grant loss? Is there space in our organization for displaced postdocs or graduate students who want to pivot into industry?

IS R&D READY FOR AI'S BREAKTHROUGH PACE?

R&D is undergoing a fundamental shift as generative and agentic AI systems gain the ability to take on core scientific tasks—generating hypotheses, simulating experiments, and accelerating discovery cycles. These tools are advancing at a pace that outstrips traditional research models, creating mounting pressure for organizations to adapt quickly. Companies are grappling with how to govern, scale, and integrate AI into their innovation strategies while keeping up with a moving target. The urgency is compounded by growing expectations from investors, customers, and corporate leadership to demonstrate AI fluency and future-readiness. Additionally, AI is becoming a focal point of the Trump Administration with pledges to fund and hold back on regulation. While the pressure mounts, the more immediate challenge for R&D leaders is operational: legacy systems and siloed workflows are poorly equipped for this kind of acceleration. How can companies keep up?

LEARN MORE

- AI and the Future of Scientific Discovery (*MIT's FutureTech*)
- Trump's AI Push: Understanding the $500 Billion StarGate Initiative *(Forbes)*
- AI Is Redefining the Role of the Scientist – Here's How (*Technology Networks*)
- AI Adoption by Sector: Who's Leading and Lagging? (*whatfix*)

ASK YOURSELF THESE QUESTIONS:

1. Do we have a unified understanding of what “AI” means within our organization?
2. Who owns AI governance in the R&D context?
3. Who is driving our understanding of AI use cases for R&D – vendors or scientists?
4. What do innovation processes look like in an AI-accelerated environment?
5. Do we have guardrails in place for responsible experimentation?
6. What does the "scientist of the future" look like? What skills should we be looking for?
7. Will AI be able to compensate for the lack of PhDs coming through the pipeline?

ADDITIONAL TRENDS TO WATCH:

We'll keep an eye on these trends as they develop and let you know how they may impact innovation.

- 5 Signs that a US/Europe Rift is Widening (NPR)
- What Congress' 'Big' Policy Bill Means for Global Climate Change (Council on Foreign Relations)
- American's Protein Obsession is Transforming the Dairy Industry *(The New York Times)*
- The Economy Seems Healthy. Were the Warnings About Tariffs Overblown? *(The New York Times)*
- Congress rolls back $9 billion in public media funding and foreign aid (NPR)

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