



Tech Innovation in 2026

Themes and Technologies to Monitor



Anthony Schiavo
Senior Director and
Principal Analyst



Chris Robinson
Senior Director



Joshua Haslun, Ph.D.
Senior Director



Yuan-Sheng Yu
Senior Director

Agenda

- 01** | **Megatrends driving innovation in 2026**
- 02** | Themes and technologies to monitor in 2026
- 03** | Outlook: Innovation strategy in 2026



1

AI and uncertainty



①

**AI and
uncertainty**

②

**Geopolitical
shifts**

A close-up photograph of a microscope's objective lens and eyepiece, with a small green leaf fragment on a slide in the foreground. The lighting is dramatic, highlighting the metallic surfaces of the microscope.

①

**AI and
uncertainty**

②

**Geopolitical
shifts**

③

**Investment
whiplash**

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Theme: Resiliency

A fear of missing out (FOMO) was the major innovation driver of the early 2020s. As FOMO dies down, resiliency emerges as the major driver of innovation strategy amid so much uncertainty.

- Resilience is the ability to anticipate, withstand, and recover from external shocks.
- These shocks may be anything beyond business as usual: pandemics, technology breakthroughs, extreme weather.

LUX TAKE

In a low-oil-price environment, innovation teams will be hard-pressed to find innovations with **near-term ROI** and that **do not rely on subsidies** to succeed.

Policy changes alter investment dynamics



The removal of IRA subsidies dramatically altered the landscape of low-carbon tech globally.

Technology: CCUS

Carbon capture, utilization, and sequestration (CCUS) is needed in all decarbonization scenarios and can generate revenue via credits or product sales today.

- Capture and sequestration are technologically mature with supporting policies and regulations.
- Managing emissions for other industries is a revenue-growth opportunity that doesn't displace existing products for oil and gas companies.

LUX TAKE

Watch for **carbon capture manufacturing scale-up** and a growing sequestration project pipeline in 2026, while utilization pathways remain pilot scale.

Modular carbon capture systems enable shorter deployment timelines and lower costs



Theme: Affordability

Electricity costs are rising in most regions, pushing utility bills to the forefront of consumer minds and politics.

- The costs of maintaining and expanding the grid are mounting, at a time when investments in system-level changes are required.
- Rising energy bills are pushing electricity policy to the forefront of politics in some regions.
- This is happening at the same time that grid reliability is falling in many regions.

LUX TAKE

Flexibility is crucial; utilities should be urgently identifying ways they can tap into flexibility. This limits the amount of new infrastructure to build today and prepares the grid for more renewables tomorrow.

Iberian power outages show the need for investment



The 2025 power outage on the Iberian Peninsula highlights the system changes required.

Technology: Power regulation hardware

The rapid growth of DERs has tested the limits of a grid designed for central generation, leading to power and voltage fluctuations that can damage electrical systems.

- Power regulation devices manage the flow of power within electricity networks.
- Many don't involve novel technologies, but rather the regulatory and market environment now support deployments in some regions.

LUX TAKE

Regions with a high penetration of renewables facing grid instability must **add power regulation hardware** in combination with software-based technologies, like DERMS.

Solutions that provide visibility into and unlock capacity from existing power grids



SMART  WIRES
REIMAGINE THE GRID

Theme: Performance

A structural turning point for the global chemicals industry puts the spotlight on performance across all aspects.

- **Financial.** Mounting macroeconomic, policy, and demand headwinds have led to restructuring businesses and pausing or canceling projects.
- **Product.** The industry is shifting toward extracting value from existing portfolios and exploiting core capabilities.
- **Innovation.** Chemicals companies are integrating AI and automation into R&D in more deliberate ways.

LUX TAKE

Winners will invest through uncertainty, strengthen product portfolios and R&D capabilities, and remain focused on long-term competitiveness.

A turning point for chemicals manufacturing in Europe



European chemicals majors are restructuring amid high costs and price pressures.

Technology: Materials informatics

Materials informatics (MI) is experiencing a renaissance moment with the advances of AI capabilities

- A surge of generative molecular design and automation is bringing both hype and capital.
- MI still faces challenges in quantity and quality of data — many proofs of concept but no real commercial success.
- Connecting modeling, automated experimentation, and validation under one solution will drive progress.

LUX TAKE

Capabilities of AI in materials discovery are vastly overstated, but **MI is a key tool to serve as accelerators rather than disrupters in early stage R&D.**

AI for accelerating chemicals, materials, and formulation development



Theme: Momentum

Industrials companies will refine their innovation strategies rather than overhaul previous efforts.

- Despite macroeconomic and geopolitical headwinds, the industrials sector is well positioned with healthy financials and strong order backlogs.
- Headline-grabbing opportunities will become clearer as companies reevaluate overly optimistic projections.
- Confidence in smaller-scale pilots will grow as large-scale, capital-intensive projects remain on pause.

LUX TAKE

Leaders will look beyond incremental improvements to the core by scouting breakthrough technologies with potential for near-term product and solutions integration.

Bets on data center cooling tap emerging technologies



Eaton's acquisition of Boyd Thermal signals a rise of end-to-end data center solutions.

Technology: Critical minerals extraction

Resource security is a national security concern that is reshaping economics.

- Mounting pressure to build resilient, domestic supply chains is driving a wave of innovation.
- Solutions capable of valorizing waste feedstocks will gain a competitive edge.
- Industrial companies must be ready to adjust their supply chain strategies, underpinned by critical minerals extraction innovation.

LUX TAKE

Carving out or defending a position in the critical minerals supply chain poised for **sustained growth will require innovative technology partnerships.**

Recycling of rare earth elements and copper from waste feedstock



Cyclic
Materials™

Theme: Refine

Industry focus shifts to constraint-driven formulation and development as novelty-first approaches stall.

- Innovation consolidates around compliance-ready problem ingredients.
- Biologicals innovation transitions from novelty to efficiency and evidence accumulation.
- Discovery is no longer the clear bottleneck and has transitioned to scale and market-critical challenges.

LUX TAKE

Purpose-built innovations for strong markets are emerging, but you should expect high competition, meaning **you'll also need to expand the scope of your search to other industries.**

Emergence of creatine as a frontier in functional nutrition



Effervescent dosage system for poor solubility ingredients like creatine

Technology: Ingredient functionality modeling

Avoid risks and bolster product quality following strategic consolidation and amid disruption events.

- AI creates a second renaissance for process optimization and formulation.
- Companies must be willing to explore pilots to solve or identify constraints with an IP protection strategy in place.
- Functionality modeling is moving to commercial adoption with application-specific solutions.

LUX TAKE

Following strong adoption in pharma and cosmetics, functionality modeling connecting data, experimentation, and simulation is scaling, but **don't expect deep mechanistic modeling of food matrices.**

Determining baking optima with Pareto frontiers



Grainge.ai

Theme: Diagnosis

Create closed-loop health systems for early triage, self-management simplification, and to direct clinician time efficiently.

- Nations are struggling with strong general and specialty practitioner gaps.
- Clinician shortages at all levels of care drive interpretation task automation technology opportunities.
- Don't overstretch the technical application but rather find the niches that make an impact.

LUX TAKE

The race is underway to apply AI to one of the largest healthcare challenges facing the world — clinician demand gaps — but you must prioritize tasks that free resources for complex human decisions.

EU faces 1.2 million clinician shortage



All regions face advancing gaps in primary, emergency, and specialty care.

Technology: AI-driven diagnostics

AI-driven diagnostics are creating impact as technology readiness, policy, and needs align.

- There is intensification from pilots across hospital use-cases with strong interpretation needs.
- Triage relies on interpretation, which creates bottlenecks for care under resource-constrained scenarios.
- High-acuity and highly repetitive use-cases provide the best direct time and cost reductions.

LUX TAKE

Implementation of AI for interpretation of high-acuity scenarios and highly repetitive tasks is primed to provide relief in hospital settings, but **AI must be embedded in transfer and eligibility workflows to drive impact.**

The U.K. National Health Service intensifies Brainomix AI use



BRAINOMIX

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The Lux Tech Signal

The Lux Tech Signal is based on our analysis of innovation data, including:

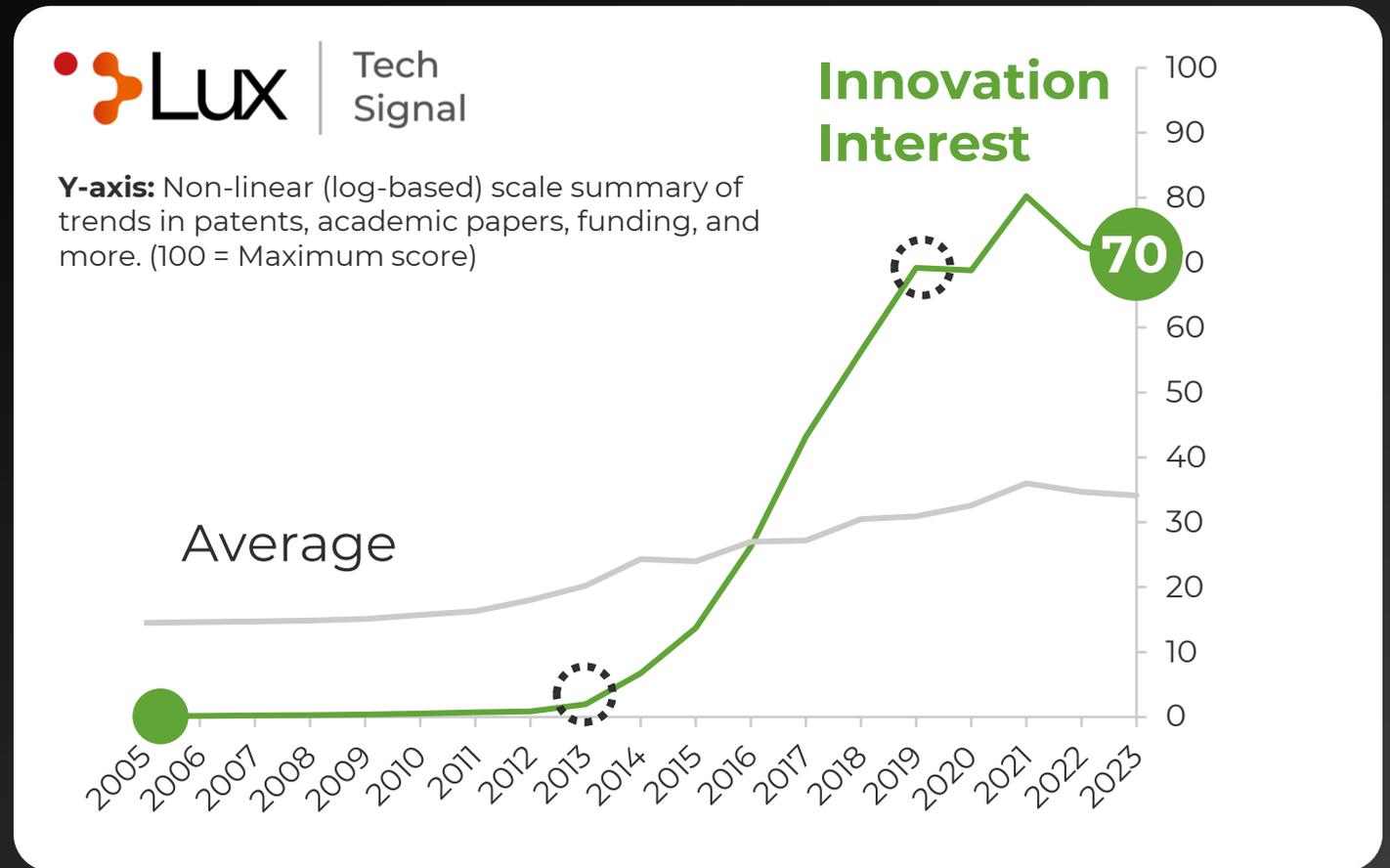
Patents

Academic papers

VC funding

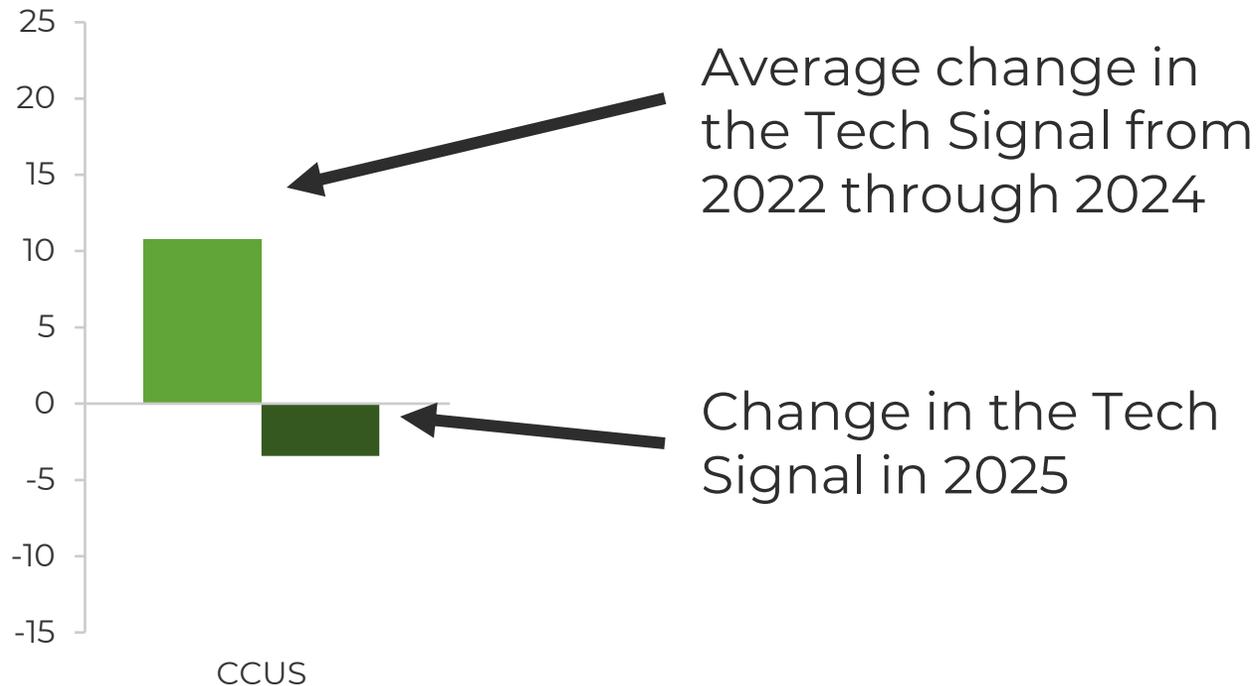
Government funding

Lux proprietary data



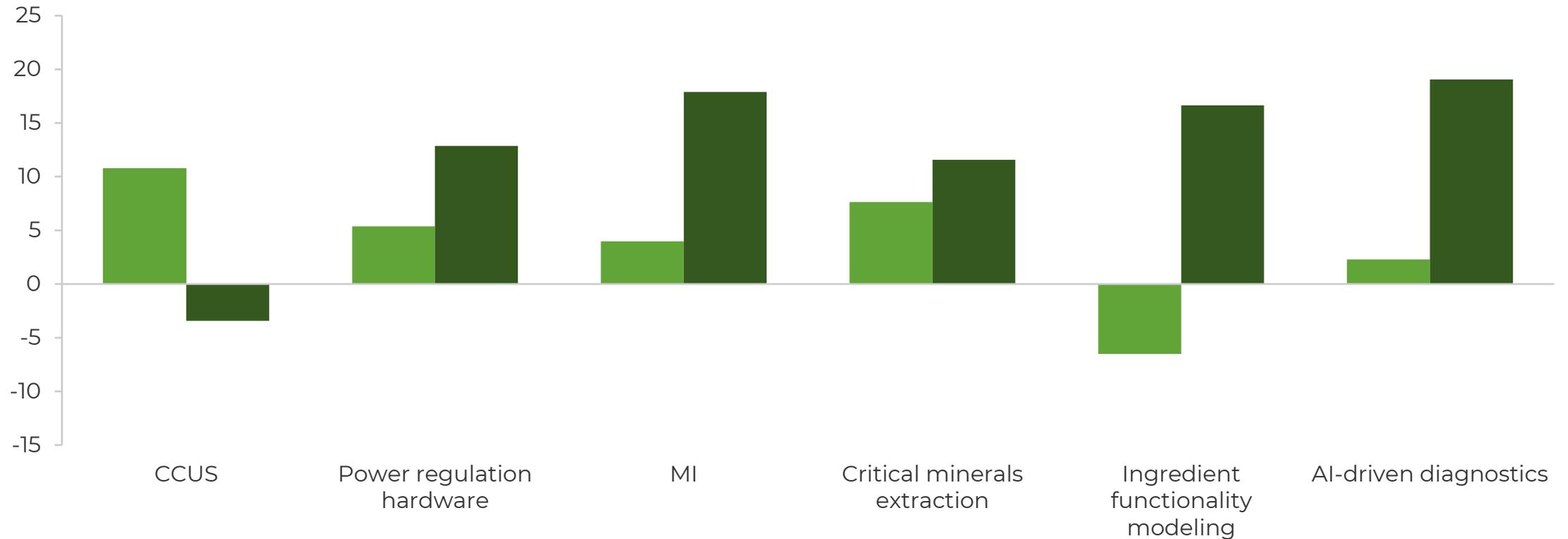
What's rising and falling?

Average Change in the Tech Signal

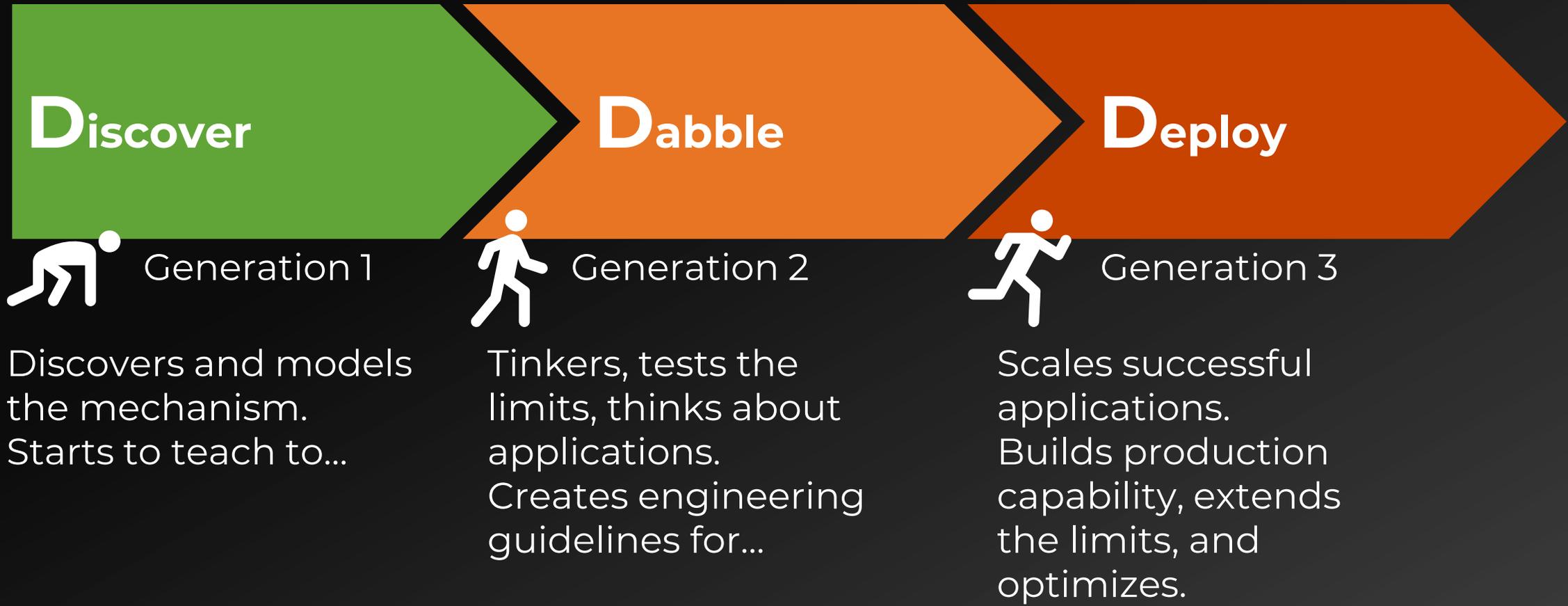


What's rising and falling?

Average Change in the Tech Signal



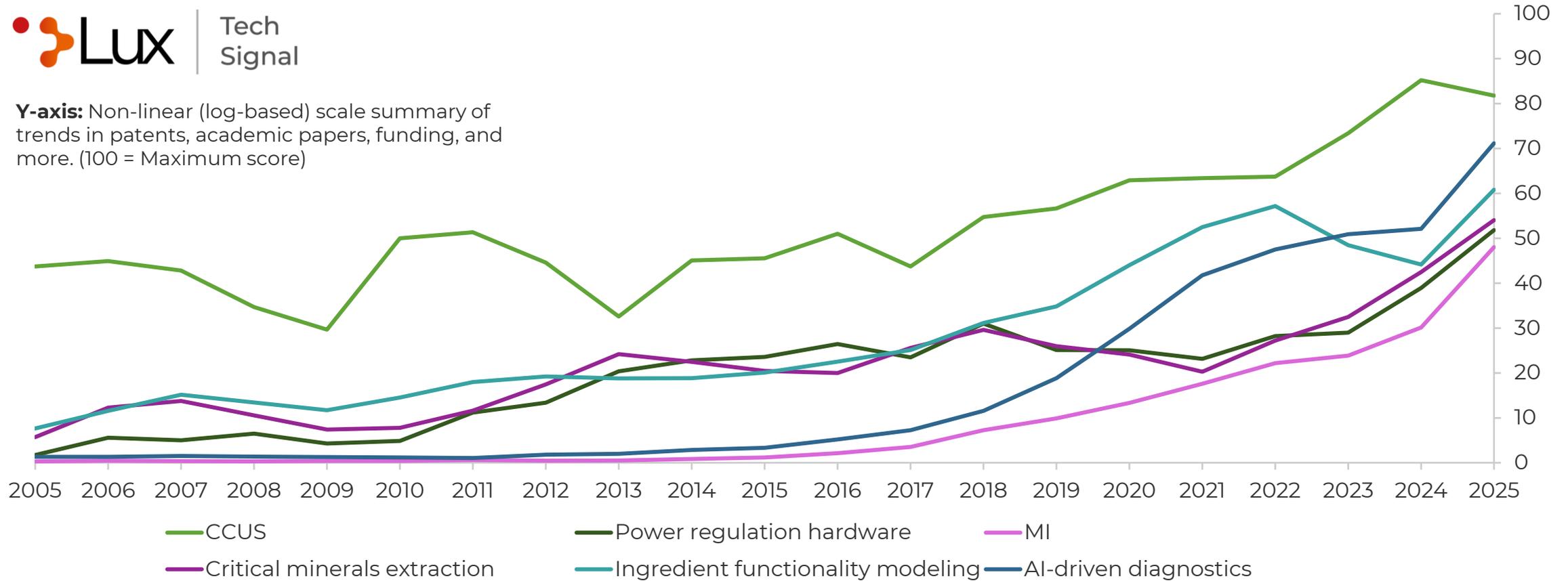
3 D or rather... 3 G



These early stage technologies are still in the dabbling phase



Y-axis: Non-linear (log-based) scale summary of trends in patents, academic papers, funding, and more. (100 = Maximum score)



Key takeaways

1

Get back to innovation

The risk appetite across industries is beginning to increase as companies adjust to the new normal. For innovation teams, getting back to innovation is critical — if you don't, someone else will.

2

Hunt for deals

While the appetite for risk is ticking up, there are still many distressed startups and innovators with few options. Companies that target off-trend technologies can score deals, especially if they focus on IP that has long-term value.

3

Defend your right to dabble

Integration is just as critical as technology. Dabbling in tech and dabbling in markets is a necessary part of innovation, but corporations are losing patience. Innovation leaders need to vocally advocate for involvement in earlier-stage technologies if they want to be successful.



Thank You



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EMAIL

questions@luxresearchinc.com

About Lux

Lux Research fuels innovators to not only imagine what's possible in the future but also operationalize innovation success in the near term. We deliver research and advisory services to inspire, illuminate, and ignite innovative thinking that reshapes and grows businesses. Using quality data derived from primary research, fact-based analysis, and opinions that challenge traditional thinking, our experts focus on finding truly disruptive innovations that are also realistic and make good business sense.

The “Lux Take” is trusted by innovation leaders around the world, many of whom seek our advice directly before placing a bet on a startup or partner — our clients rely on Lux insights to make decisions that generate fantastic business outcomes. We pride ourselves on taking a rigorous, scientific approach to avoid the hype and generate unique perspectives and insights that innovation leaders can't live without.

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