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IRI Quarterly Trends Analyzer



INNOVATION RESEARCH
INTERCHANGE

Accelerating Value Creation

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 current strategic planning. At the end of each quarter, potential trends are examined by the IRI Foresights Advisory Board through the lens of 'What should Chief Technology Officers be thinking about over the next year?'. The advisory board selects the potential trends that it feels will have the greatest impact and then pinpoints the questions that you should ask yourself to ensure you are adequately preparing for these trends. In this report, you will find a description of those key potential trends, links to learn more about them, and a list of questions that will be most helpful to you in your strategic planning. 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 an 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.

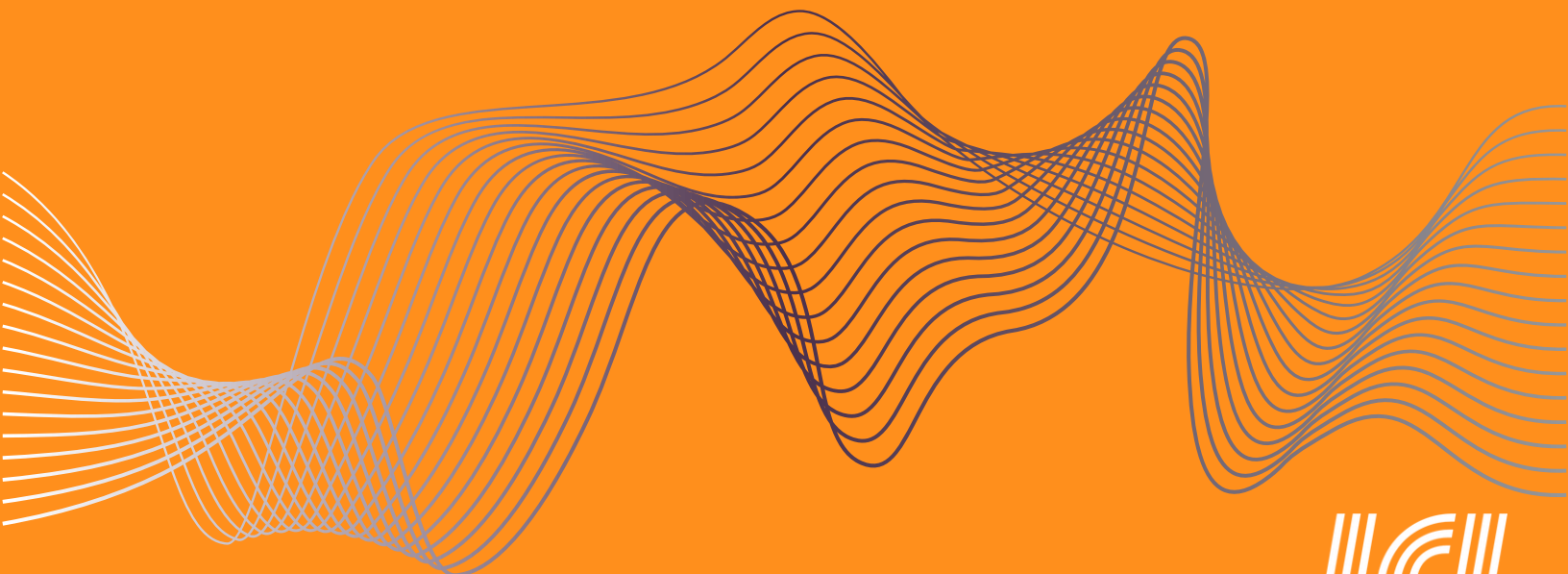


2023 Second Quarter Trends

The European Union as global regulator?

The hard work begins for AI

**Can the US staff a manufacturing
resurgence?**



Trend: The European Union as global regulator?



01. Description

The European Union has long been a trendsetter in policy and regulation around technological, environmental, social, and governance issues. Over the past year, regulations and proposed rules around sustainability and pay equity have been handed down by the EU which affect companies based or operating in Europe—including thousands of US firms. Additionally, as countries scramble to deal with the risks and rewards of AI, the EU has already enacted the first laws on regulating artificial intelligence. The EU's AI Act is the first serious attempt to regulate AI technology with the goal of regulating everything from ChatGPT to fraud detection. With the intensity of European regulation seemingly increasing, how will that impact investments in Europe and the market itself?



02. Learn more

- [EU lawmakers back ban on goods linked to deforestation](#) (Reuters)
- [CSRD, CSDDD, ESRS and more: A cheat sheet of EU sustainability regulations](#) (GreenBiz)
- [Yellen Says US Is Concerned About EU's ESG Supply Chain Rules](#) (Bloomberg)
- [How Europe is Leading the World in the Push to Regulate AI](#) (AP News)
- [At Least 10,000 Foreign Companies to Be Hit by EU Sustainability Rules](#) (*The Wall Street Journal*)
- [Europe has fallen behind America and the gap is growing](#) (*The Financial Times*)
- [European Parliament approves pay transparency directive](#) (KPMG)





03. Ask yourself these questions:

- How will the directive on pay equity, both internally and externally, impact our current practices and our ability to attract talent in an already challenging European market?
- How will the pay transparency directive affect our US staffing and recruitment?
- What impact will the EU's Artificial Intelligence Act have on our operations, especially given its unique and potentially challenging approach compared to the rest of the world? Equally, what will be the impact of EU ESG regulations?
- How can our organization navigate the implications of the Eurocentric belief system as it relates to human rights and the rights of states in the EU?
- To what extent will mandates from the EU influence our strategic decision making and the wider market?
- Given the current stance of the US government, what is the potential for their alignment with EU regulations and how will this affect our strategy?
- Will the EU's regulatory stance prompt a shift in the geopolitical landscape, potentially driving companies towards the UK to avoid EU regulations, and if so, how should we prepare for this?



Trend: The hard work begins for AI



01. Description

The initial excitement following the introduction of Chat GPT has worn off, leaving behind concerns for humanity, jobs, and privacy, and also the very fundamental challenge of how to use it. Companies are struggling to figure out how, when, and if to use AI tools without the benefit of regulatory guidance. This is taking place as these tools are still in their infancy, but the hype surrounding them makes it seem that companies who don't adapt will be left behind. How can companies chart a path forward with AI that takes into account financial, ethical, and legal restraints and their workforce?



02. Learn more

- [AI chatbots lose money every time you use them. That is a problem.](#) (*The Washington Post*)
- [AI Regulation Is Here. Almost.](#) (*The Wall Street Journal*)
- [AI Poses 'Risk of Extinction' on Par With Pandemics and Nuclear War, Tech Executives Warn](#) (*The Wall Street Journal*)
- [ChatGPT took their jobs. Now they walk dogs and fix air conditioners.](#) (*The Washington Post*)
- [Cybersecurity faces a challenge from artificial intelligence's rise](#) (*The Washington Post*)
- [As Businesses Clamor for Workplace A.I., Tech Companies Rush to Provide It](#) (*The New York Times*)





03. Ask yourself these questions:

- Where do we anticipate regulatory standards will land in regards to the use of AI and other new technologies in our industry, and how might we best prepare for this?
- How can we incorporate new technologies into our operations in a responsible and ethical manner, considering the fact that the private sector is currently leading in establishing guidelines?
- Given our reliance on partners, how should we evaluate them with a greater emphasis on their commitment to responsible use, security, and ethical behavior, going beyond traditional considerations of being a 'good partner'?
- How will the introduction of generative AI into our operations impact our workforce strategy? Will we seek to maintain the same productivity with fewer employees, or keep the same number of employees while seeking to increase productivity?
- What indicators should we be watching for to predict when the tipping point for AI adoption might occur in our industry and how can we ensure we are prepared for it?
- How can we predict and manage the likely differential rates of AI adoption in different areas of our organization, such as high-frequency, low-level tasks versus specific, business-oriented tasks?
- How will we manage the adoption of AI in the context of an aging workforce? Could AI adoption be a potential solution to workforce shortages and burnout?
- What impacts will the adoption of AI assistants have on our workforce dynamics, particularly with regard to skill level requirements and the roles of higher-skilled staff in training AI?
- How do we navigate the potential ethical, legal, and economic risks associated with the adoption of AI, especially considering the current lack of comprehensive training solutions for these tools?
- Who are the key stakeholders, including responsible AI organizations, we need to engage with to shape our understanding of responsible AI adoption, and how might we contribute to a cross-industry effort to define what responsible AI use means?



Trend: Can the US staff a manufacturing resurgence?



01. Description

The U.S. is having a manufacturing boom, fueled by both public investment and a move away from long, fragile supply chains. However, with 604,000 manufacturing job openings as of May 2023, it is unclear if the U.S. workforce as it currently exists can meet the challenge. Will programs aimed at upskilling the U.S. workforce be able to keep pace with growing demand? Equally important, will those programs be able to train workers to meet the fast-changing technological needs of manufacturers?



02. Learn more

- [Future Skill Needs in Manufacturing: A Deep Dive](#) (Manufacturing Institute)
- [Labor Market by the Numbers - July 2023](#) (Manufacturing Institute)
- [Shortage of electrical engineers to power labor market growth: Kiplinger Economic Forecasts](#) (Kiplinger)
- [Want to know why America is losing its edge? Look around campus.](#) (*The Washington Post*)
- [Schneider Electric Expands North American Manufacturing](#) (*The Wall Street Journal*)
- [America's Semiconductor Boom Faces a Challenge: Not Enough Workers](#) (*The New York Times*)





03. Ask yourself these questions:

- How can we creatively partner with the Manufacturing Institute, educational institutions, or other organizations to attract new talent and combat labor shortages in the manufacturing industry?
- How can we modify our recruitment strategies to reach potential employees earlier, perhaps even during their school years?
- How can we incorporate a holistic approach into our workforce planning that includes considerations like immigration policies and the use of AI?
- How can we bridge generational and cultural gaps in the manufacturing industry, and what can we learn from Europe's approach to industrial training?
- Given the waning popularity of trade schools, how can we help provide a viable platform for workers to learn a trade and stay skilled in the modern manufacturing landscape?
- How can we reshape the public perception of manufacturing jobs to encourage more people to enter the field, and to counter the notion that these jobs are not desirable for future generations?
- How can we strategically leverage AI and robotics in our operations, considering that these technologies may not completely fill labor gaps, but could transform the nature of work in our industry?



Additional potential trends to watch

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

- [What if AI could rebuild the middle class?](#) (NPR)
- [Nearly half of baby boomers have no retirement savings](#) (*The Hill*)
- [Africa seeks new role as nations eye its resources](#) (BBC)
- [The coming business insurance apocalypse](#) (GreenBiz)
- [Companies Must Protect Workers From Heat Stress, Study Warns](#) (Forbes)

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