

9TH ANNUAL

State of Smart Manufacturing Report: Life Sciences Edition

How the Life Sciences industry is harnessing emergent technology to reduce risk, manage supply chains and maximize workforce potential



expanding human possibility™

OBSTACLES AND OUTLOOK FOR THE LIFE SCIENCES SECTOR

The labor shortage in the Life Sciences sector is even more concerning than inflation and economic growth. Workforce issues top the table of external obstacles – four places higher than in our full report, which covers a cross-section of industries.

Climate change and its impact on the supply chain are also top of mind for Life Sciences manufacturers. Climate change comes much further down the table for other industries, only scraping into the top 10 in our aggregated results.

The biggest internal obstacles point to organizations undergoing a period of considerable disruption; struggling to balance quality and growth while merging acquired smart manufacturing technologies and managing organizational change.



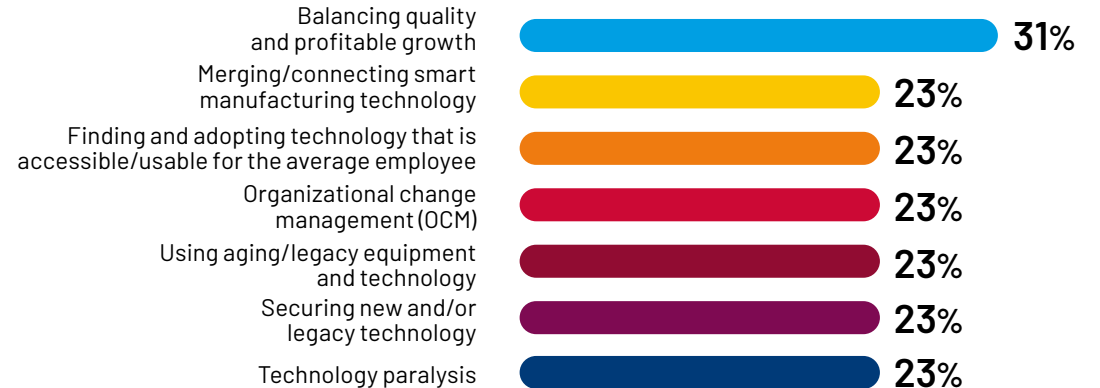
EXTERNAL OBSTACLES IN 2024



Q. What do you see as the biggest external obstacle(s) to your organization's growth for calendar year 2024? Select all that apply.

Base: 1567

INTERNAL OBSTACLES IN 2024

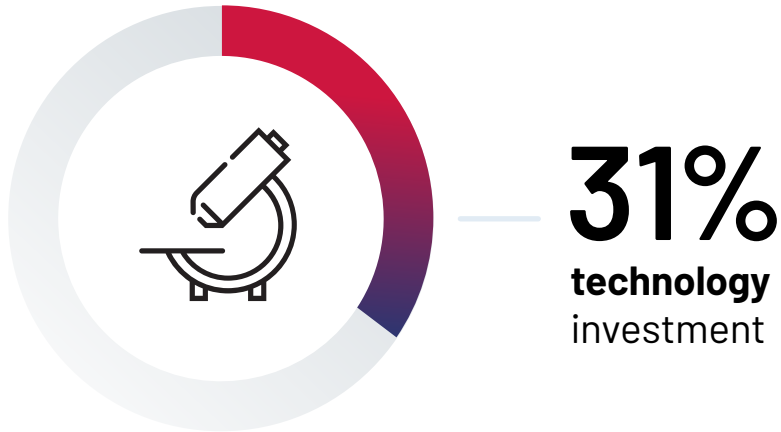


Q. What do you see as the biggest internal obstacle(s) to your organization's growth for calendar year 2024? Select all that apply.

Base: 1567

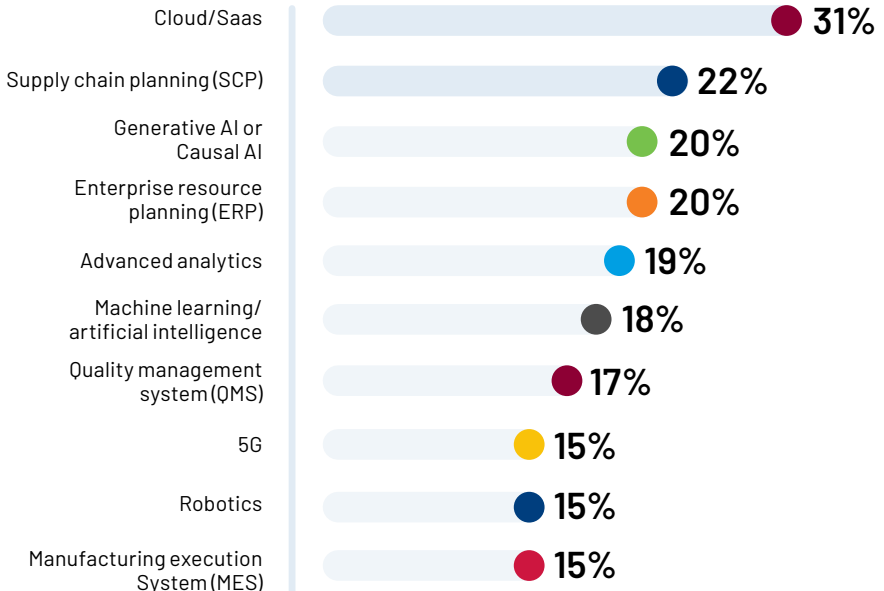
TECHNOLOGY INVESTMENTS RISE IN LINE WITH OTHER INDUSTRIES

Similar to other industries, Life Sciences has increased its investment in technology to 31% of its operating budget.



In line with our overall report, this sector is seeing most return from its investment in cloud and SaaS solutions. However, the importance of the supply chain is again felt here more strongly than elsewhere, with supply chain planning (SCP) delivering the second biggest return (ranked fifth in the aggregated industry results).

BIGGEST ROI



0. Which of the technologies that your company has invested in had the biggest ROI over the last 12 months? Select top 3.

Base: 1562

ABOUT THE RESEARCH

This report is based on the responses of 111 managers and executives from Life Sciences manufacturers in 15 countries.

It's part of the 9th annual edition of the [State of Smart Manufacturing report](#), which surveyed 1,567 manufacturing leaders across multiple industries.



DATA FUELS PROCESS OPTIMIZATION AND SALES ANALYSIS

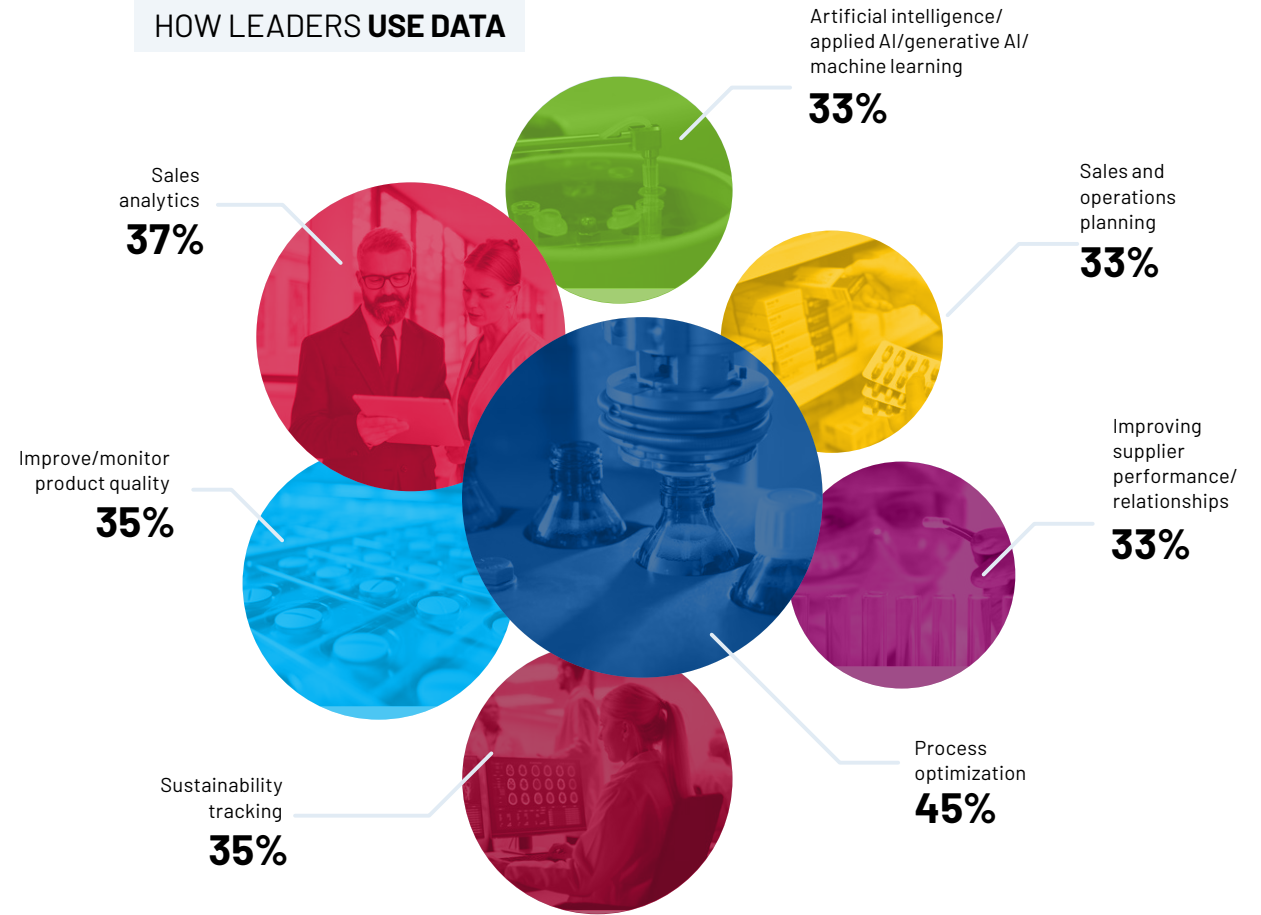
Respondents believe the top two ways that those at the forefront of their industry are using data are to optimize processes and analyze sales information. Those surveyed said these were also the top ways their own organizations use data collected from technologies and connected devices. However, when it comes to sustainability tracking, leaders are perceived to be capitalizing on data to a far greater degree (the third-ranked use case) than respondents' own organizations (ranked 14th).

When it comes to their own data, Life Sciences respondents believe their organizations use under half (45%) of what they collect effectively.



LESS THAN **HALF** of data is being used effectively

HOW LEADERS USE DATA



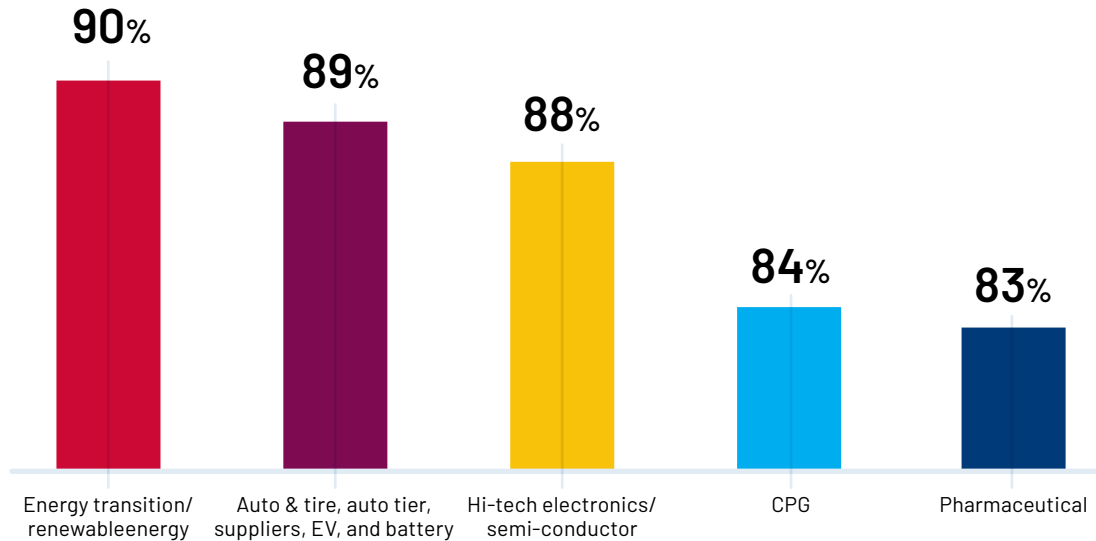
0. How do you perceive leaders in your industry are using the data collected from their currently employed technologies, processes, connected devices, etc.? Select all that apply.

Base: 1567

ROOM FOR IMPROVEMENT IN THE FIELD OF ESG

Life Sciences firms lag behind other sectors in our report when it comes to implementing formal environmental, social and governance (ESG) policies. It has one of the highest percentages of informal programs (14%)*, representing an opportunity to formalize policies in the future.

MANUFACTURERS THAT HAVE SOME FORM OF ESG POLICY BY INDUSTRY*



Q. Which of the following best describes your organization's current efforts around ESG (Environmental, Social, and Governance/Sustainability)? Select one.

Base: 917

- A1. We have a formal, company-wide ESG or sustainability policy in place.
- A2. Some of our locations have a formal ESG or sustainability program.
- A3. We have informal programs in place but not an official stance.

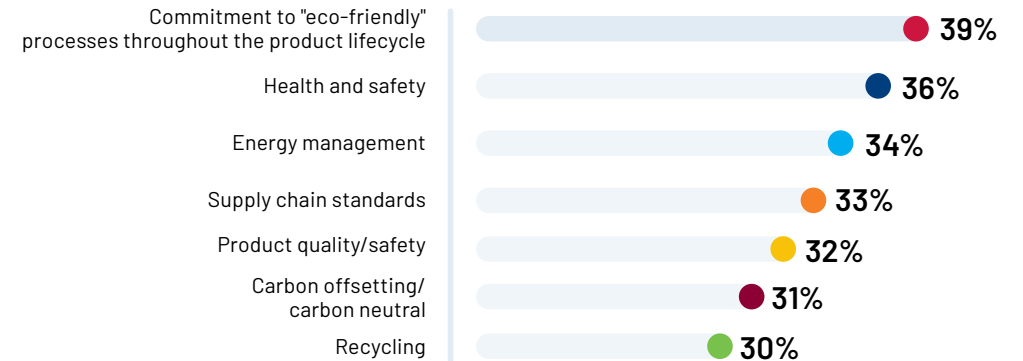
* Only showing respondents from these industries

** Refers to manufacturers who responded: "We have informal programs in place but not an official stance."



A concern with the end-to-end supply chain surfaces again when we look at what matters most to respondents' ESG or sustainability programs. A commitment to environmentally friendly processes throughout the product lifecycle tops the list. Supply chain standards appear at number 4, while only ranking joint sixth in the aggregated industry results.

WHAT MATTERS MOST FOR 2024



Q. What matters most to your organization's sustainability/ESG policy? Select all that apply.

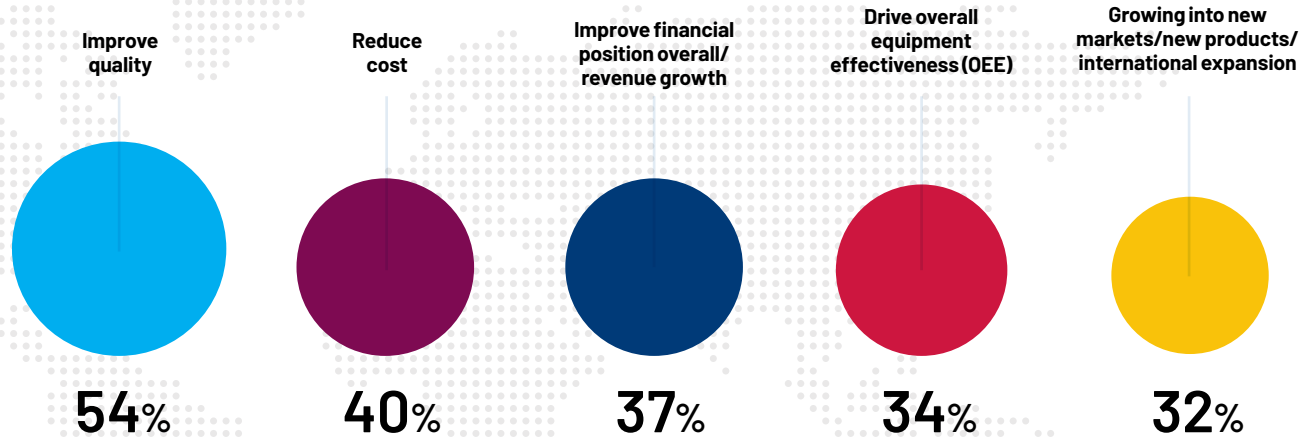
Base:1567

MANUFACTURERS ADOPT SMART MANUFACTURING TECH TO IMPROVE QUALITY

A higher-than-average 96% of Life Sciences manufacturers are using or evaluating smart manufacturing technology and most believe it will help them improve quality, operate more cost-effectively and generate growth.

However, cost is also seen as the main barrier to adoption of smart manufacturing in the Life Sciences sector, followed by workforce-related issues; namely a lack of necessary skills, and resistance to change.

SMART MANUFACTURING IS DRIVING BUSINESS OUTCOMES AROUND THE WORLD



0. What positive business outcomes are you looking to achieve from your smart manufacturing technology? Select all that apply.

Base: 1567

96% of Life Sciences manufacturers are using or evaluating smart manufacturing technology



FACTORY FLOOR PROCESSES SEE MOST **SMART MANUFACTURING ADOPTION**

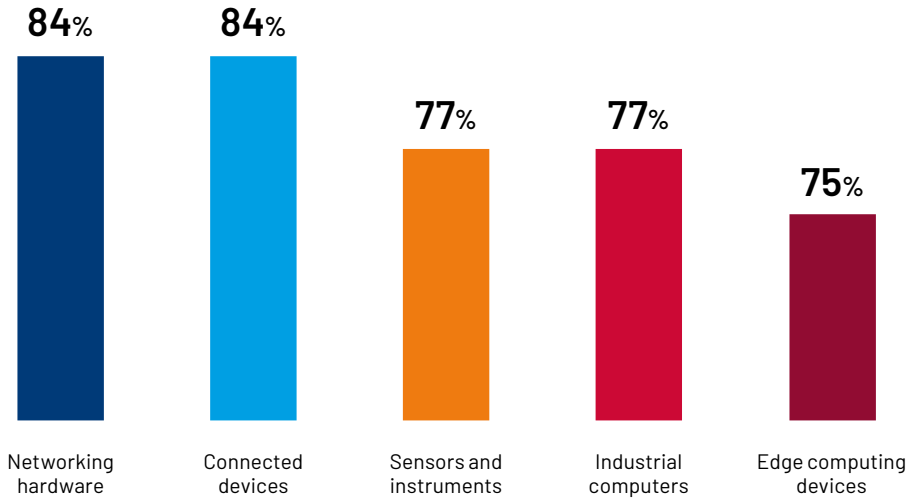
PERCENT OF **SMART MANUFACTURING ADOPTION**

HARDWARE

Manufacturers are upgrading their networking infrastructure and investing in more industrial computers and connected hardware devices to capitalize on advancements in connectivity. One area where Life Sciences diverges from other sectors is in its adoption of edge computing, which doesn't make the top 5 in our cross-sector report.

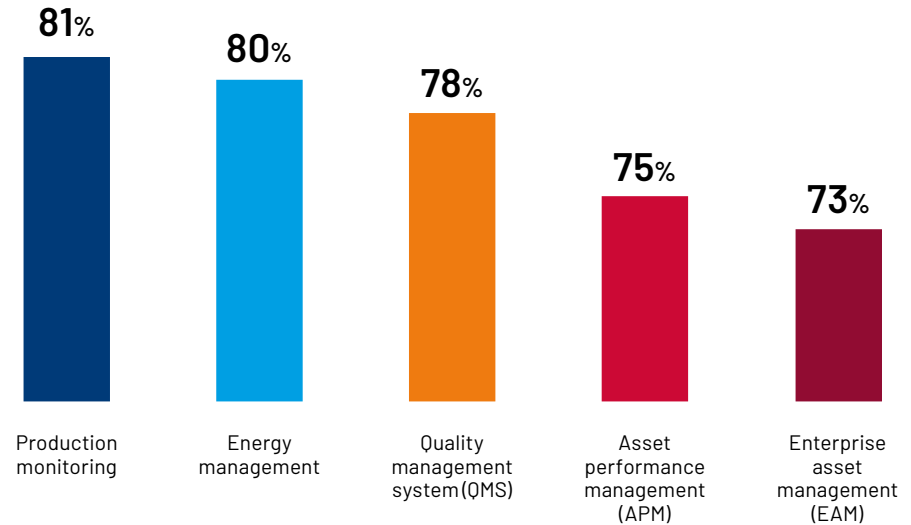
SOFTWARE

Organizations are using smart manufacturing software for production monitoring, and energy and quality management. **Life Sciences firms, unlike respondents in our aggregated industry report, rank asset performance management (APM) and enterprise asset management (EAM) in their top five smart manufacturing software solutions.**



Q. Which of the following smart manufacturing hardware/smart devices has your company adopted or has plans to adopt?

Base: 1567



Q. Which of the following smart manufacturing software solutions has your company adopted or has plans to adopt?

Base: 1567

BUILDING A WORKFORCE WITH STRONG STEM KNOWLEDGE

Life Sciences employers see STEM knowledge and skills as the number one employee attribute for recruitment over the next 12 months. While the so-called 'soft' skill of analytical thinking is highly valued, so too are more knowledge-based attributes; workers who are familiar with smart technology, coding and software development will be in high demand.

Identifying and finding budget for these skilled workers will be a challenge, according to our respondents, who place the rising cost of labor and difficulty finding employees at the top of their list of workforce-related obstacles over the next 12 months.

Internal communication – both throughout teams and throughout the organization – is also causing problems for Life Sciences manufacturers, who rank this issue 8 places higher than our cross-sector respondents.

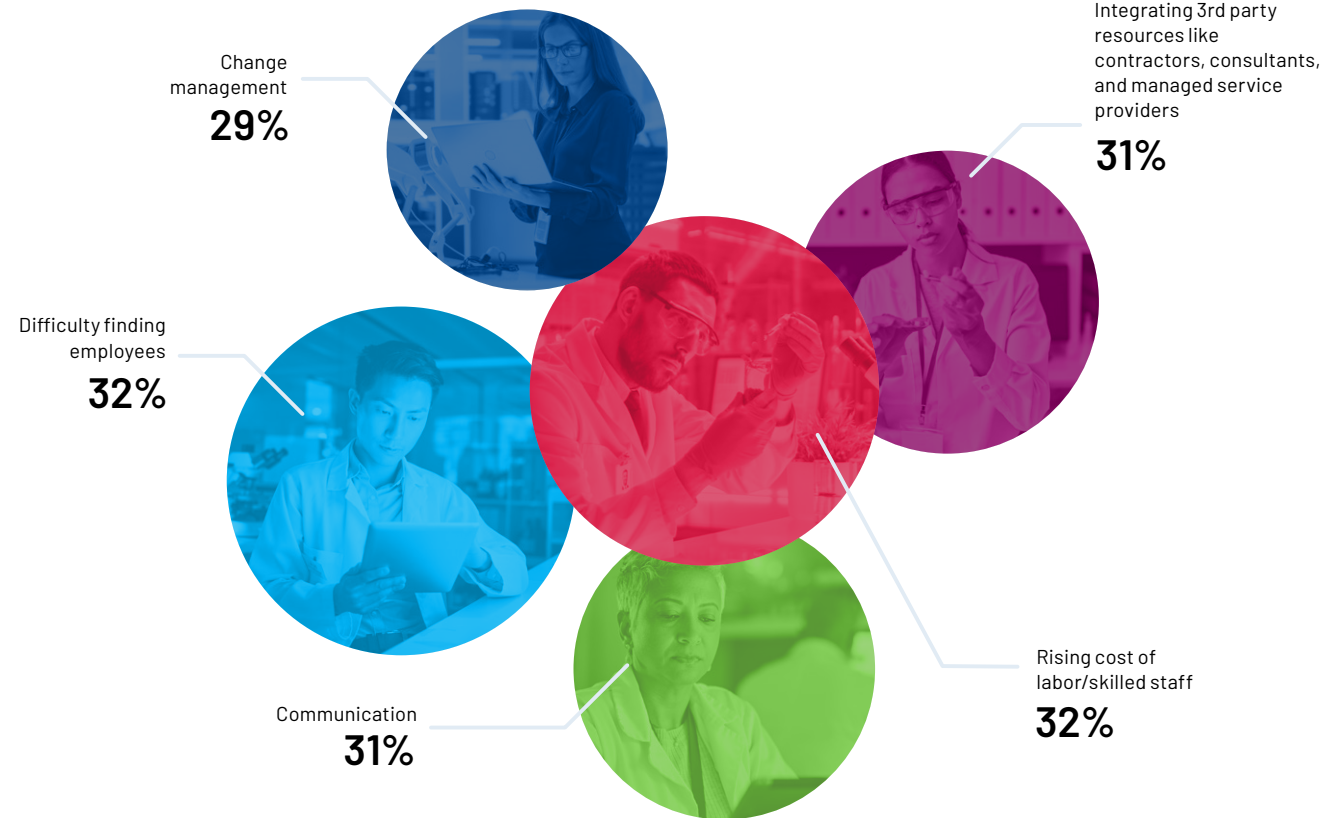
SKILLS EMPLOYERS ARE SEEKING



Q. Over the next 12 months, how important are the following knowledge and/or skills as your organization recruits its next generation of employees?

Base: 1567

WORKFORCE-RELATED OBSTACLES



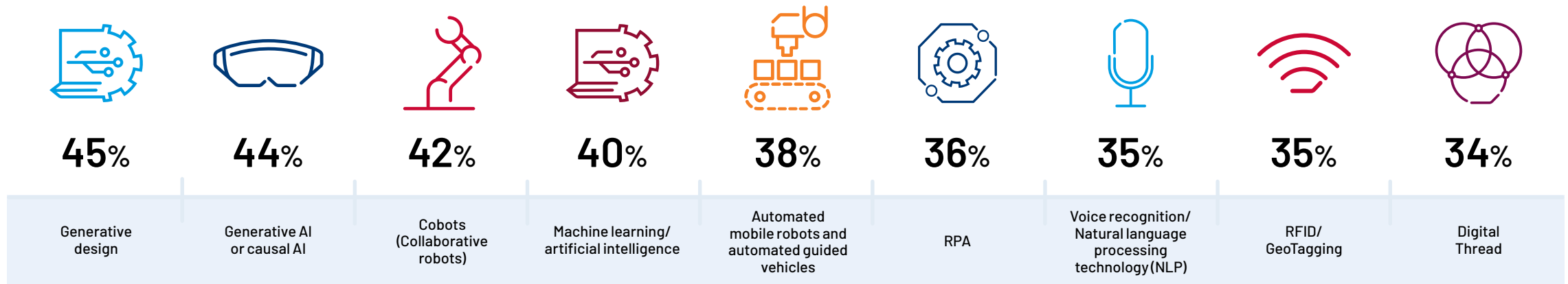
Nearly 1/3
rated labor costs and finding employees
the top workforce challenges

GENERATIVE DESIGN & AI TOP PLANNED TECH INVESTMENTS

Life Sciences firms plan to invest in generative design over the next 12 months, with generative or causal AI next on the list. These technologies appear in the top 5 table for our aggregated report too, along with the third most popular choice for future investment: cobots (collaborative robots).



TOP 10 INVESTMENT AREAS OVER THE NEXT 12 MONTHS



Q. Which of the following technologies has your company invested in?
Respondents selected: Plan to invest in the next 12 months from four options.

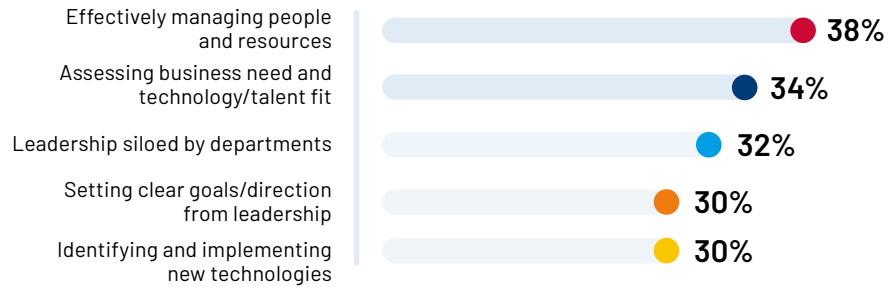
Base: 1567

LOOKING TO THE FUTURE

Finding people with the right skills, and solving internal communication issues, are themes which surface again in this report as we look to the future. **The top five leadership obstacles for this sector include managing people, assessing talent fit and ineffective communication due to leadership siloes.**

Going forward, Life Sciences manufacturers are targeting strategies that will help them retain, upskill and engage the workforce in order to thrive and grow.

TOP 5 LEADERSHIP OBSTACLES

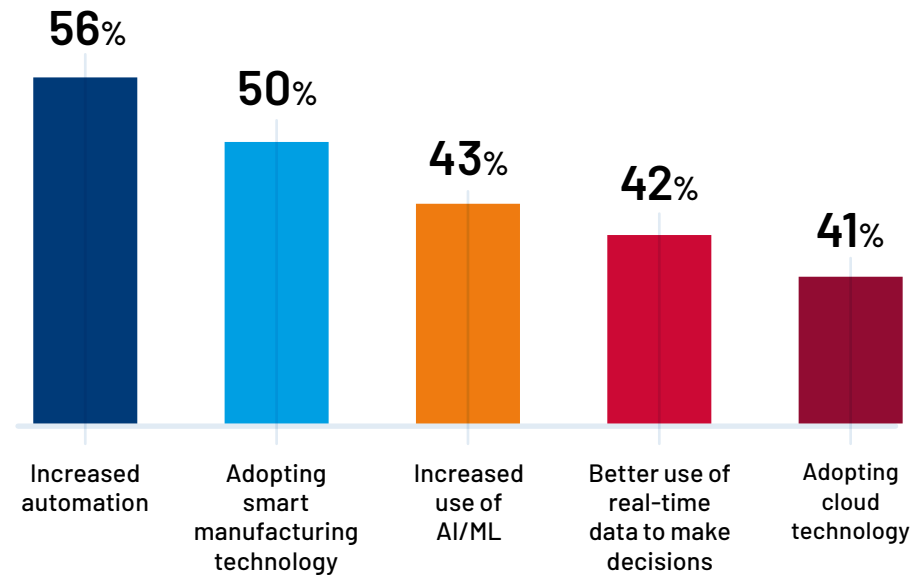


This data represents the top 5 leadership obstacles that will be faced in the next 12 months for Life Sciences.

Technologies that complement and augment the value brought by people – such as automation and smart manufacturing technology – are where they see positive business outcomes being created.





Despite the intense workforce and supply chain challenges, there’s reason to be positive for those leaders who focus on the benefits to be had by technology when it’s thoughtfully applied by an engaged and inspired workforce.

HOW LIFE SCIENCES MANUFACTURERS ARE PLANNING TO DRIVE FUTURE SUCCESS



Q. How do you plan to drive positive business outcomes over the next five years? Select all that apply.

Base: 1567

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