



2022 KPMG U.S. Technology Survey Report

Energy and chemicals industry insights



Price volatility and inflation both challenge digital transformation agendas

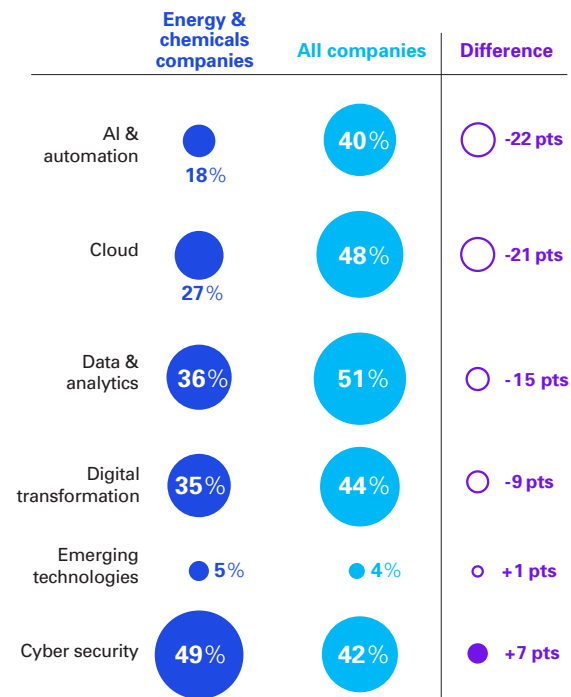
Volatile commodities prices have challenged the digital transformation agendas at many energy and chemicals companies by pressuring budgets. At the same time, they have made digital transformation even more important to long-term success. Assuming continued price volatility and accelerated inflation challenges—and there is little reason not to—companies that aren't able to leverage emerging technologies to improve operational discipline and efficiency may find it difficult to meet shareholder expectations.

Energy and chemicals companies lag across much of the digital landscape

Energy and chemicals companies represented in the 2022 KPMG U.S. Technology Survey rank well behind their peers in other industries when it comes to making use of—and generating value from—digital technologies.¹

Figure 1: Energy and chemicals companies lag on most technology fronts

Percentage of organizations proactive in progressing against their strategy and continually evolving in the following areas:



Source: KPMG U.S. Technology Survey Report, KPMG LLP (U.S.), 2022.

Only 18 percent of energy and chemicals companies are proactive and progressing against their agenda for artificial intelligence and automation, for example, compared with 40 percent of all companies represented in the survey. (See Figure 1.) Thirty-five percent are finding that lack of executive buy-in and/or investment approval is limiting progress, compared to only 19 percent of all companies.

The story is similar around migration to the cloud and making use of data and advanced analytics. Only 27 percent of energy and chemicals companies are proactive and progressing against their cloud agenda, versus 48 percent of all companies, and only 36 percent are proactive and progressing against their data and analytics agenda, versus 51 percent of all companies.

To be fair, the environment in which energy and chemicals companies have had to operate has not been forgiving. Oil prices are important determinants of financial results not only for oil and gas companies but also for many chemical companies, and oil prices have been extraordinarily volatile over the past two years amid the sharpest rise in inflation in decades.

“Oil prices spent much of the spring and summer of 2022 trading above \$100 a barrel, but just two years ago, at the onset of the COVID-19 pandemic, crude oil futures were trading as low as negative \$35 a barrel,” notes Angie Gildea, national sector leader for Energy, Natural Resources and Chemicals, KPMG in the U.S. “So for a time there was very little money for many of these companies to invest in digital transformation. Every dollar was going toward survival.”

Only **27%** of energy and chemicals companies are proactive and progressing against their cloud agenda, versus 48 percent of all companies.

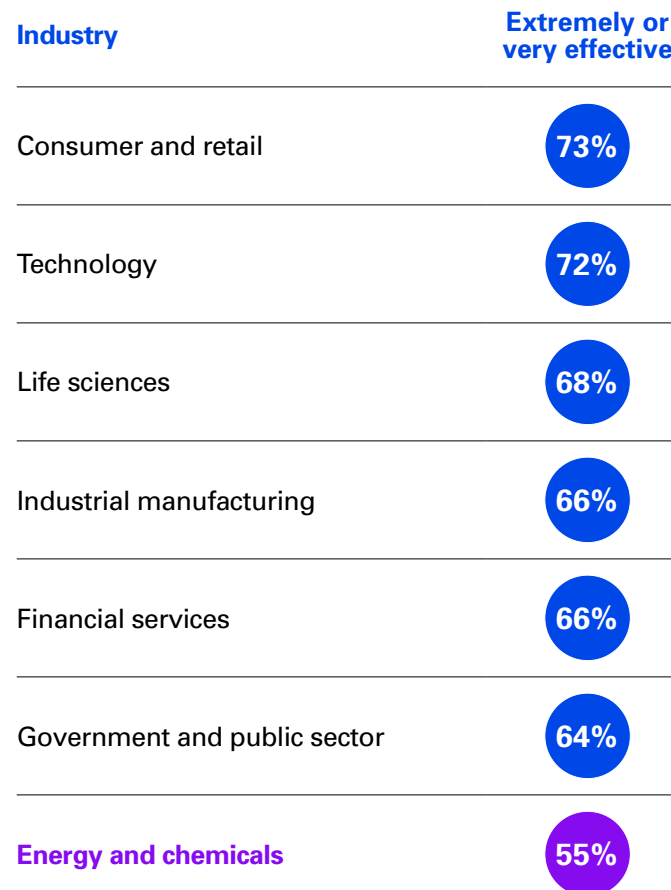
¹ In May and June 2022, KPMG U.S. surveyed 1,052 U.S.-based, executive-level technology leaders across eight broad industry sectors about the current state of their organization's digital transformation journey, the challenges they are facing along that journey, and their planned technology investments. This report highlights the most significant differences in the survey findings for the energy and chemicals sector relative to all sectors represented in the survey.

Today, executives in the energy and chemicals sector are the least likely to say their organization has been very effective in using digital technology to advance its business strategy (55 percent versus 66 percent of all companies). (See Figure 2.) They also are tied with executives in the government and public sector as the least likely to say their organization's digital transformation efforts have boosted profitability or performance by more than 10 percent (just 15 percent have seen their organization achieve gains of that magnitude, versus 21 percent of all companies).

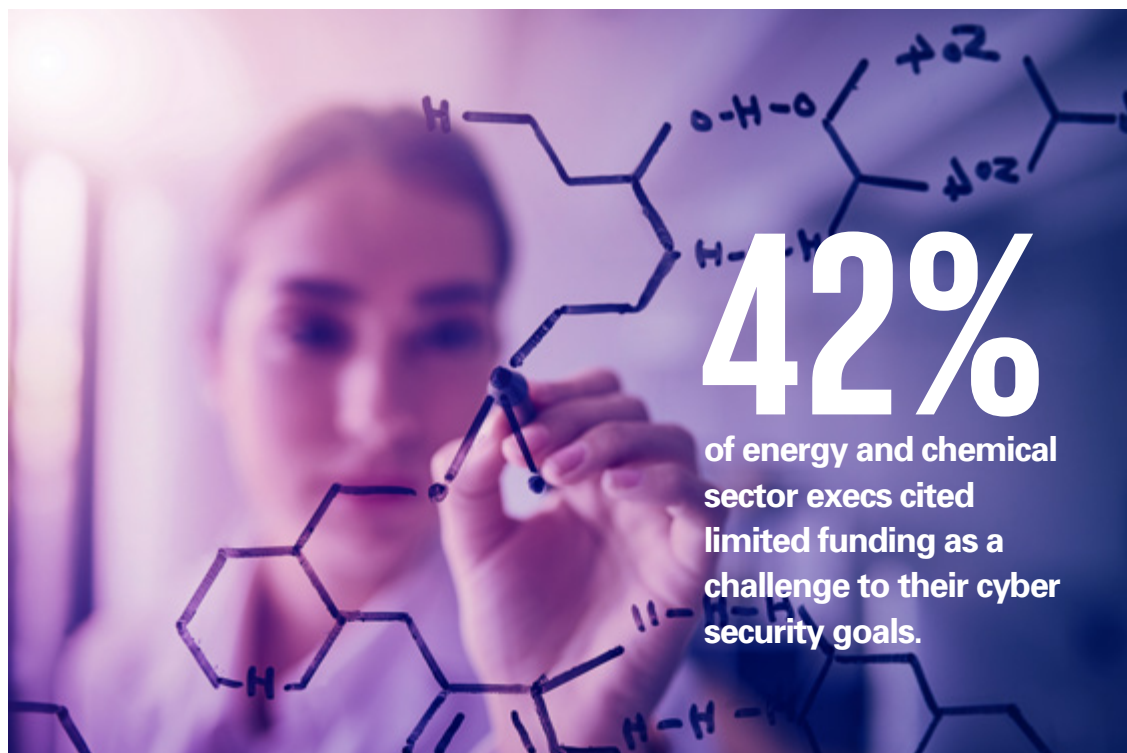
More so than in any other industry, executives at energy and chemicals companies are inclined to cite the high cost of purchasing and implementing new systems (and adding the necessary talent) as a significant challenge to their adoption of digital technology. Thirty-nine percent point to these costs as a big hurdle, versus 30 percent of all executives. In the same vein, energy and chemicals is the sector where "limited funding" is the most commonly cited internal challenge to meeting cyber security goals, with 42 percent of industry executives identifying it as a challenge, versus 33 percent of all executives.

Figure 2: Sector is least likely to be using digital technology to advance business strategy

Overall, how effective has your organization been in using digital technology to advance its business strategy?



Source: KPMG U.S. Technology Survey Report, KPMG LLP (U.S.), 2022.



Getting more from digital transformation

In working with clients across the energy and chemicals sector, KPMG has seen that averages don't paint the full picture of how well individual companies are progressing against their digital transformation agendas.

"Our clients are no longer questioning if they should start a digital transformation," says Brad Stansberry, Advisory industry leader for Energy, Natural Resources and Chemicals, KPMG in the U.S. "They have realized that digital transformation is the new normal and will be a continuous priority as we move into the future."

Some in this sector have made great strides. In general, we see that large oil and gas companies tend to be further along the curve than power utilities, particularly in the use of machine learning and advanced analytics. Oil and gas companies, for example, have used these digital technologies to great advantage in enhancing results from their exploration, drilling and production activities.

Still, the survey findings overall point to a dramatic need for many energy and chemicals companies to accelerate their digital transformation agenda.

"The time to invest more in digital transformation is now," Gildea notes. "The last few years have seen significant disruptions in energy commodity markets, and we foresee continued instability. For oil and gas companies and chemicals companies to weather that volatility and continue to provide what investors are asking for, which is a return of cash to



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— Angie Gildea, National Sector Leader for Energy, Natural Resources and Chemicals, KPMG in the U.S.

shareholders, there has to be a strong focus on operational discipline and operational efficiency. And one of the best ways to capture additional operational efficiency is through the deployment of emerging technologies."

For power and utility companies, Gildea says, the focus will be on harnessing technology to operate more efficiently and increase resilience, ultimately delivering an improved customer experience. Among other things, this could involve using technology to minimize power disruptions and provide early detection of wildfires.

The operational agility that digital transformation enables also will be important, Gildea says, to preparing energy companies for other challenges that loom on the horizon.

"Given geopolitical environments, inflation, volatile prices, and looming regulation of the energy transition from fossil fuels to low carbon energy sources, it's imperative that energy companies evolve their business models and digital capabilities with the changing times," she says.



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Unlike business-only consultancies, our more than 15,000 Technology professionals have the resources, the engineering skills and experience, the battle-tested tools and solutions, and the strategic alliances with leading technology companies to help achieve your vision quickly, efficiently, and reliably. And unlike technology-only firms, we have the business credentials and sector experience to help you deliver measurable business results, not just blinking lights. We're recognized by industry analysts as a leader in advanced technologies: AI and automation, data and analytics, cyber, low-code, and more.

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Whether we're helping you deploy a new technology, migrate to a new cloud platform, or outsource challenges with our managed services, you can count on us to deliver—fast.

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