

ORACLE

The CIO's mandate: Lead the AI charge

How you can help boost workforce efficiency,
customer intimacy, product quality, and innovation



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CIOs need to seize the AI day

Artificial intelligence holds tantalizing promise: to make existing software more effective, free workers from routine tasks, optimize the efficiency and effectiveness of core workflows, improve the timeliness and accuracy of data analysis, empower decision makers with incredibly insightful trend forecasts, enhance customer-facing systems with lifelike, personalized, and responsive interactions, and much more.

To successfully deliver these benefits, CIOs need both a cohesive vision and a plan to synchronize a range of technologies to build, automate, and scale the AI practice. This is a once-in-a-career opportunity to collaborate with C-suite peers and beyond in a round of reinvention that surpasses anything we've seen since the internet.

Because so many of AI's payoffs are self-evident, you don't need to make a hard sell. What the organization does need is steady, high-profile leadership to ensure AI is deployed in a way that seizes opportunities and creates efficiencies without opening the door to short-term thinking and dead-end initiatives. That last category includes rogue projects that result in siloed systems, or worse, the exposure of sensitive information in a way that violates company policy, privacy regulations, and even data sovereignty laws.

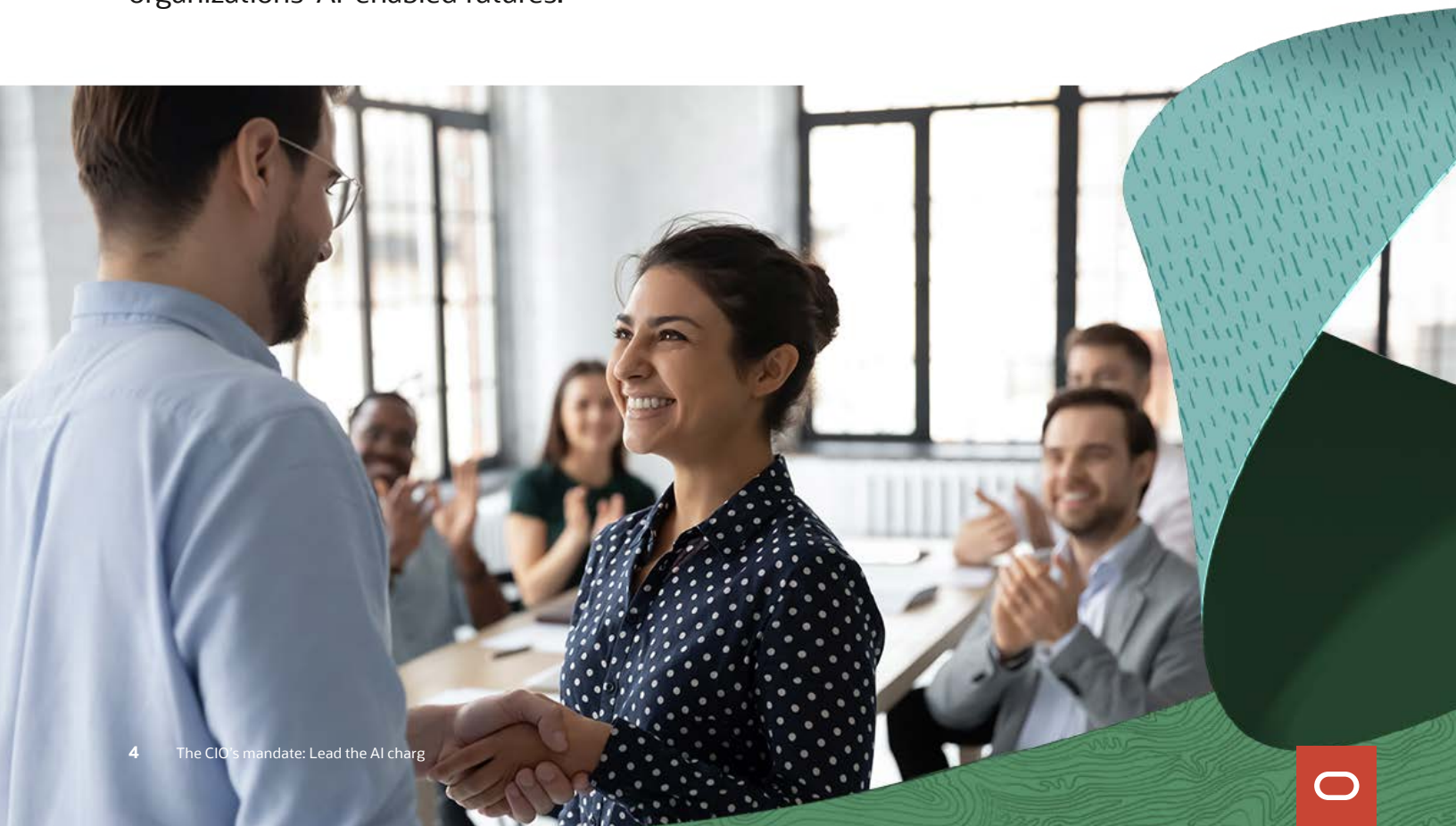
Because the promise of AI is clear and the temptation for other business leaders to dabble is real, we advise establishing an AI center of excellence (CoE) where CIOs shape a cohesive vision with input from, and the full backing of, fellow executives and boards. Your AI CoE will be a high-profile effort that makes AI's promise a reality. It will be a hub to identify, plan, and execute AI-based projects in collaboration with stakeholders from across the enterprise.

Why create an AI center of excellence?

When a central group coordinates efforts across all business units, the benefits are myriad and include greater cohesiveness, cost savings via reuse, and consistent governance and security, to name a few. A CoE may also help attract AI talent because it demonstrates a commitment to the technology.

Position your AI center of excellence as a cross-departmental hub of technical competency, software development resources, data models and platforms, policy direction, ongoing monitoring, and budgetary and legal guidance. Working through the CoE, departments can quickly formulate plans and run pilots, license vetted AI tools and services, and, perhaps most importantly, share success stories and lessons learned.

The AI technology universe is vast, and so are the real-world implications—especially when they involve data, systems, and processes that span the organization and have the potential to impact employees, customers, intellectual property, and compliance. An AI CoE in which IT teams collaborate closely with stakeholders puts CIOs in prime position to shape their organizations' AI-enabled futures.



Seven quick keys to CoE success

- ✓ **Draft a concise vision statement** that reflects how you expect AI to benefit the business. If you use OKRs or another framework, incorporate AI.
- ✓ **Starting with the CEO, engage every C-level executive** as a participant, evangelist, and stakeholder. Work to determine a budget and some desired high-level outcomes.
- ✓ **Set up regular touchpoints with your suppliers** to understand their AI plans. Vendors often use customer input to inform their roadmaps. Hearing your vision may help them bring you AI benefits sooner. Likewise, understanding vendor product directions can inform your own business planning. Are there capabilities you may not have considered? It's a two-way street.
- ✓ **Assemble a cross-functional team** of technologists, data scientists, and departmental power users. Choose people who run toward change. Set them up with access to AI interest and peer groups, research, trend reports, and insights into real-world trials.
- ✓ **Start building a catalog** of vetted AI products and services that integrate and are available to departments. Include niche and specialized systems as needed.
- ✓ **Establish governance rules** centered on data security and compliance.
- ✓ **Launch with some fanfare**, possibly working with the marketing team. Reward early adopters. Iterate.

There's likely a desire in the C-suite to demonstrate quick wins to the rest of the business, shareholders, customers, and the market. So identify projects that maximize upside potential and payoff while minimizing the costs and risks of uncoordinated department-level pilots that may not be scalable or useful to the wider organization.

As with any new addition to the operating model, there will be a constant need to remind everyone of the value. Broad adoption of the CoE's services will depend on departmental leaders believing that it offers a faster, better, less costly, and more convenient way to develop AI solutions versus working with alternative resources, either internally or externally.

Harness generative AI's promise

Many will focus first on generative AI as it offers the possibility to substantially reshape a number of business practices. McKinsey & Co. reports that AI could add the equivalent of US\$2.6 trillion to US\$4.4 trillion to the global economy annually across the 63 use cases analyzed.¹ The report adds that this estimate would roughly double if it included the impact of embedding generative AI into software that is currently used for other tasks beyond those examined.

75% of the value from those use cases falls into four areas: customer operations, marketing and sales, software engineering, and R&D. Examples of productivity wins include more-meaningful interactions with customers, generating creative content for marketing and sales, and rapidly drafting computer code based on natural language prompts.

The labor productivity growth payoff depends on the speed of technology adoption and how well organizations redeploy employee time—both factors an AI center of excellence can help maximize.

McKinsey & Co reported
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US\$4.4
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¹[The economic potential of generative AI: The next productivity frontier](#)

Generative AI: CoE impetus and inspiration

AI comprises a broad constellation of technologies. Many, such as rules-based expert systems, fuzzy logic, and neural networks, date back decades. The past 10 years have seen tremendous advances in machine learning and deep learning. These technologies have enabled diverse applications, including spelling and grammar checkers, document classification systems, and image object recognition. For years, AI has driven advances in cybersecurity, anomaly detection, forecasting, transaction analysis, and even sentiment analysis in social media.

The newest star in the artificial intelligence galaxy is generative AI. Freely available tools such as ChatGPT and DALL-E have captured the public's imagination, and that's only the beginning: IT solutions providers are rushing to add generative AI's capabilities to their offerings using APIs and to create new products and services that leverage it.



As with all AI technologies, generative AI can add value across the spectrum, from back-end operations to customer-facing services. Expect to see it used for a broad range of tasks, including creating human-readable reports tailored for individual leaders, helping workers find answers to customer queries, and writing hundreds of personalized sales emails in less time than it would take a human to grab a second cup of coffee.

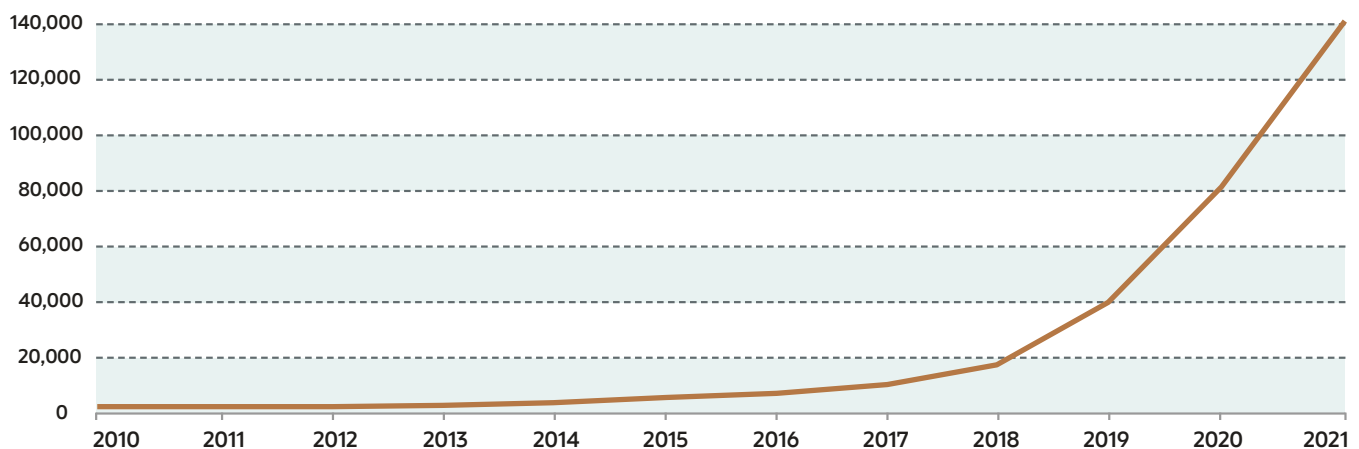
While businesses are rightly excited about these possibilities, Harvard Business Review cites interviews with leaders who say AI's seemingly "superhuman" capabilities may prevent employees from trusting and engaging with the technology,² and J.P. Morgan research calls out copyright and data loss risks that could compromise employee and client confidentiality.³ There's a tsunami of new products headed for the market. Business leaders may not be equipped to vet them for interoperability, security, or cultural fit.

That's why organizations need an AI center of excellence.

AI patents: An upward trend

Watch for a flood of new AI point solutions as well as innovations from established providers.

Annual global patent fillings for artificial intelligence technologies



Source: Center of Security and Emerging Technology via AI Index Report (2022)
Note: Based on a search of relevant codes and keywords in the Cooperative Patent Classification and International Patent Classification systems. [Our-WorldInData.org/artificial-intelligence](https://www.ourworldindata.org/artificial-intelligence)

² [AI Can Help You Ask Better Questions — and Solve Bigger Problems](#)

³ [Is Generative AI a Game Changer?](#)

Five practical AI wins

Experts advise companies to think big but start small. And because AI is such a broad category, there's no best path to adoption. But we do have one piece of advice: Avoid the waterfall method. It takes too long and will open the door to shadow AI projects. Instead, task your AI champions to jump into a few of these five areas—or one that's a particular pain point for your organization—demonstrate success, and build from there.



Process automation: Use AI to automate repetitive tasks that rely on digital data, such as invoice processing, ledger entry management, ordering and billing, and shipping and receiving.

Key returns: Richer data sets, fewer errors, less fraud, time savings, policy and process adherence, and higher data quality.



Data analysis: Use AI-driven data analysis to rapidly identify trends—in real time, in many cases—and suggest ways to capitalize in areas such as logistics, sales management, and technical operations. Pull in a wide array of internal and external data sources, including some that were previously unused.

Key returns: Actionable business insights that simply can't be found any other way.



Improved communications: Use AI to help employees and customers solve problems, find answers to complex questions, and summarize complex data, whether structured or unstructured.

Key returns: Information can be found quickly, inquiries are satisfied in seconds, and customers are happier.



Hyperpersonalized sales and marketing: Use AI to create unique messaging for every customer and prospect; that can power tailored upsell opportunities and, in many cases, increase sales volume.

Key returns: Increased buyer engagement, more interest in products and services, and increased staff bandwidth for other initiatives, with the downstream potential for higher profitability.



New products, services, and business models: While this may or may not be a quick win, like the internet itself, AI offers the potential to suggest entirely new revenue generators and reimagine operations.

Key returns: AI has the potential to increase revenue while raising the organization's profile in the industry.

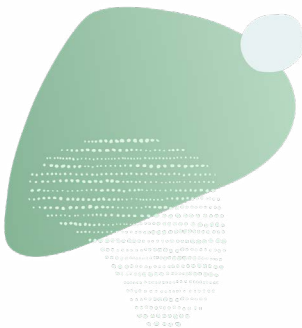


Protect data while maximizing its value

Complex rules govern both the vast amount of information that is fed into AI systems and the output from those tools. The fine print dictating data ownership may be buried deep inside a licensing agreement and often favors the vendor providing the technology.

Governance and security experts within your CoE should focus on understanding and explaining the implications of various AI systems for the organization's data. Still, it's up to the CIO to make sure the right compliance questions are asked of every external supplier of AI technology—especially if it's hosting data in its own cloud. Given the legal issues, including data residency and sovereignty, customer privacy, and IP protection, security assurance can't be taken casually or left to the vagaries of shadow IT.

It's equally important to remember that this isn't a new challenge, especially for organizations that use cloud-based IT services. Hyperscalers and other established enterprise tech providers know they need to be careful stewards of customer data, even as they add AI capabilities.



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So, even as CIOs guide motivated colleagues, they need to provide education on why choosing the wrong tool or platform could be damaging to the company. Put processes in place within your center of excellence to help colleagues choose the right AI tool for each job and regularly review terms of service to vet systems for suitability.

Your chief data officer will be key in setting ownership and confidentiality standards. The CFO and general counsel will have insights to share with peers on the risks of sharing data with the wrong vendor. All this information can be funneled through a CoE.

Head off shadow IT

Shadow IT projects are always problematic, but with AI, the risk is greater than ever. Smart use of AI requires smart use of data, and ensuring that smart use is a job the office of the CIO can't cede. Not only will new islands of functionality pop up, but new point solutions may also require data access that would not normally be approved, at least without guardrails. Besides being misused or lost, data could be locked in silos or lack the proper audits and attention to compliance and privacy. It could also fall outside the company's backup and recovery processes.

An AI center of excellence can both prevent these problems and deliver organizational benefits that go beyond a single department, even while piloting projects that may well advantage only one business unit.

For example, sales leaders will be quick to understand that AI can help them better communicate with customers and offer hyperpersonalized offerings. Marketing teams will see similar benefits. Both will see that AI can dig deep into data and communicate unique benefits for each customer and to each customer. The allure is so strong that these leaders will be tempted to forge ahead on their own, likely with point solutions that at best aren't a good fit for the organization's tech stack and at worst could result in, as discussed, the exposure of sensitive data.

Successful, high-profile projects will head off most rogue efforts, but whatever route you go, put rules in place. CIOs should never be blindsided by a revelation that data is being used inappropriately.

Finally, if they become established, data silos and shadow IT will eventually need to be replaced with a cohesive strategy. Technology pivots are costly, and it's always wasteful to scrap work and start new. Far better to roll out AI via a CoE from the outset.

Three current priorities: HR, security, and ESG

Many of the best AI products for businesses aren't products at all; they're features and functions integrated into mission-critical applications. Three areas of early focus among vendors are human resources management, security, and ESG (environmental, social, and governance).

Let's look at how each is being transformed.

Recruit AI to help ease the talent crunch

Most of the world's biggest economies are experiencing very low unemployment and expect slow labor force growth in the coming years and decades. In fact, today 77% of nearly 39,000 employers across 41 countries report difficulty filling roles, according to the latest ManpowerGroup Talent Shortage survey.⁴ More than half (57%) plan to cope by offering more flexibility for when or where work is done, but that goes only so far when there's simply not enough skilled labor.

Bain & Company's analysis of the United States labor force predicts growth of no more than 0.4% annually through the 2050s.⁵ Meanwhile, in Japan, the gap between the labor force and the labor market is expected to leave the country short by more than 6 million workers by the end of the decade.⁶

The sooner organizations start augmenting humans with technology in general, and AI in particular, the better they'll weather the shortage.

AI can help by making existing employees more productive and happier by offloading rote tasks so they can focus on more-creative work. Goldman Sachs predicts that globally, generative AI could raise the GDP by 7%, largely via workflow changes that enable full or partial automation that offsets the need for the equivalent of 300 million full-time employees.⁷

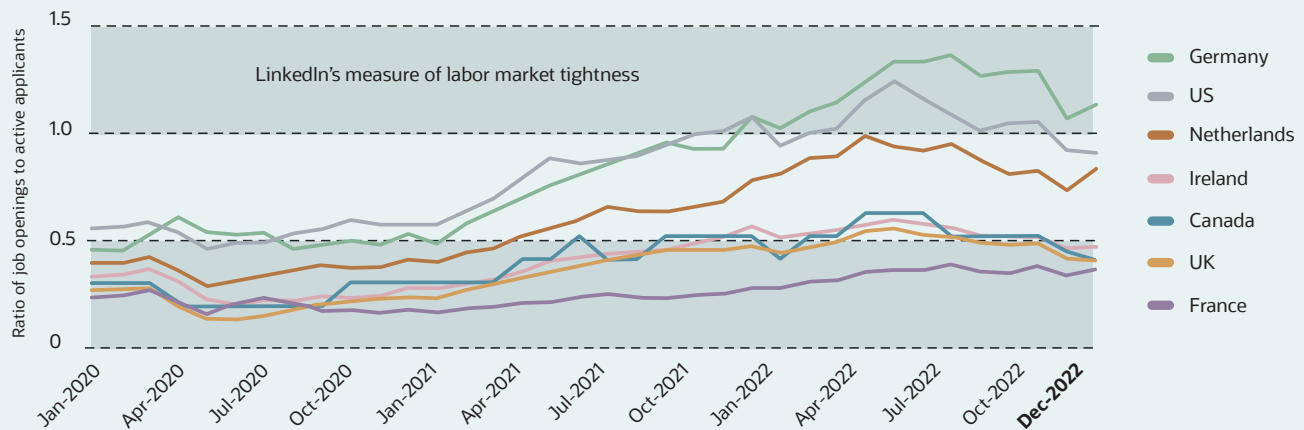
⁴ [The Talent Shortage](#)

⁵ [Labor 2030: The collision of demographics, automation and inequality \(PDF\)](#)

⁶ [Worker shortage in Japan to hit 6.4m by 2030, survey finds](#)

⁷ [Generative AI could raise global GDP by 7%](#)

For many countries, labor markets remain relatively tight compared with the pre-pandemic period.



Source: LinkedIn Economic Graph

On the HR side, the nature of work will continue to change. AI-driven data analysis can identify and forecast needs across the organization, job roles, and geographies, considering your growth drivers, the macroeconomic situation, and the availability of talent.

AI can then assist via a two-pronged approach.

First, AI can increase the productivity of workers in areas and regions where talent will be hard to find.

Second, AI can assist with internal and external recruitment, including understanding credentials and experience, matching skills with needs, and identifying hidden pools of talent. Bonus: Your CoE will be a draw for recruits with AI skills because it demonstrates a commitment to the technology.

3 ways AI can support HR teams

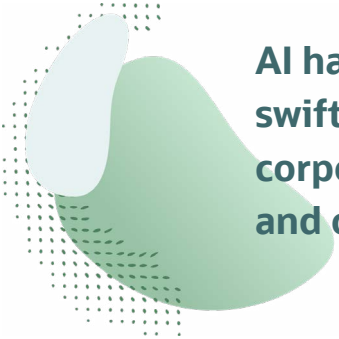
AI will help overburdened human resources teams, says HR professional community IHRIM.⁸ Opportunities include the following:

- 1 Automating administrative tasks:** Examples include benefits management, answering common employee questions, and processing leave forms.
- 2 Improving talent acquisition and retention:** Think candidate sourcing and screening and minimizing bias by focusing on data-driven assessments. AI can also help identify workers who are disengaged or unproductive and possibly seeking other opportunities.
- 3 Personalizing onboarding and training:** AI can help HR tailor benefits information and other resources to a new hire's role and location.

Strengthen security with AI

Security is always a top priority, and AI has the potential to help. That in itself is an excellent argument for considering security products that use AI technology. Because AI can learn from and correlate many inputs, AI-based security systems may scale quickly while minimizing false positives and false negatives.

In addition, some AI-based security tools may help to simplify security operations that have become, in some cases, overwhelmingly complex. Attackers now have AI tools too, and they're using them to find and exploit weaknesses and automate attacks. Using AI-based security tools may amount to fighting fire with fire.



AI has long been used to spot anomalies and can help swiftly detect unauthorized attempts to access the corporate network, fraudulent financial transactions, and other harmful activities.

⁸ [How Artificial Intelligence Is Transforming HR](#)

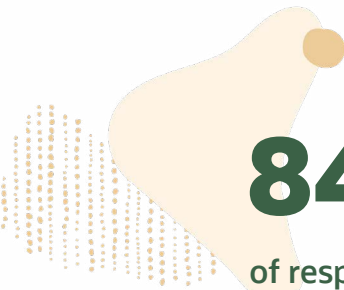
Enlist AI to address ESG concerns

ESG is an area where AI can both make significant changes and better involve employees and other stakeholders in long-term initiatives.

In Oracle's 2022 ESG Global Study, "No Planet B: How Can Businesses and Technology Help Save the World?,"⁹ 84% of respondents said businesses would make more progress toward sustainability and social goals with the help of AI. For example, many agreed that AI, using diverse data gathered from across the organization, will provide consistently rational recommendations, helping managers, employees, and customers make more-informed ESG decisions.

Sustainable IT—which is essential to a sustainable business—can be advanced by, for example, tracking the performance of third-party providers, optimizing the use of energy-efficient cloud resources, and encouraging employee engagement via chatbots and other uses of generative AI. AI may also help collect error-free ESG data while reducing time-consuming manual processes and help organizations better manage the complexities of analyzing data across global supply chains.

The result: sustainability insights that increase your competitive advantage.



84%

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⁹ [No Planet B: How Can Businesses and Technology Help Save the World? \(PDF\)](#)

How Oracle helps

CIOs can rely on Oracle Cloud Infrastructure (OCI) to fuel growth with data and AI.

As CIOs focus on implementing AI throughout their organizations, they're turning to **OCI**, which is designed to build and run any application quickly, securely, and for less—anywhere in the world, across clouds, or in your data center.

Oracle Modern Data Platform with Oracle Autonomous Database and MySQL HeatWave offers automated, high performance AI services that translate tremendous amounts of data into actionable insights. Oracle's AI services provide pretrained models that can be customized using an organization's own data to improve model quality, making it easier for developers to adopt and use AI technology.

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