

Think:Act

Leading thoughts, shaping vision

Think:Act #48 08|2026 AJN 2026|VOL.1 PRICE \$19.95

Becoming **ARTIFICIAL**



Think:Act

What do we want to work on together?

+ I want to turn my curiosity about AI into genuine competitive advantage but haven't quite figured out how yet. Where should I start, and what should I actually be doing?



Taking time

Ignore the AI hype and play the long game

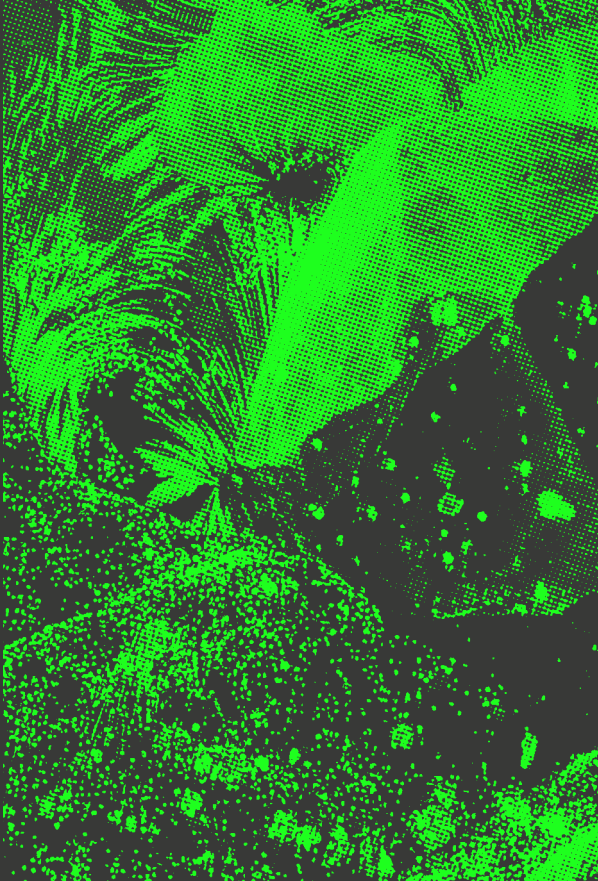
Climate change focus

How rising temps affect every business

**Roland
Berger**

BECOMING ARTIFICIAL

AI IS NO STRANGER TO THINK:ACT. WE HAVE COVERED IT IN-DEPTH OVER THE PAST DECADE. BUT THE ACCELERATION OF **the world-changing technology DEMANDS REAPPRAISAL. WE HAVE DEDICATED THIS ISSUE OF OUR MAGAZINE, AND THE NEXT, TO TODAY'S KEY QUESTIONS.**

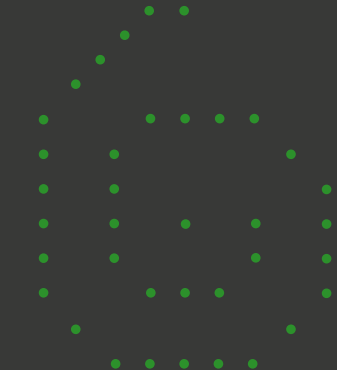


@##
##

:@%:
=@%:
=@%:

##

Picture loading...



As we adopt artificial intelligence, are we becoming artificial – and should we be worried?



Think:Act

Partially, inevitably, and no. Every tool we adopt reshapes how we think. AI is simply the most powerful yet. The question is whether you shape it or it shapes you.

+ Ask a question



The two volumes complement each other like interlocking jigsaw pieces – or two sides of the same coin. They help you explore how to be at ease with AI, to use it well to enhance your unique abilities. A key component in human endeavor is curiosity. That unique quality is what will help us explore and collaborate with technology to lead and stay on top.

This, the first volume, is "Becoming Artificial." It focuses on how you can embrace and learn to use AI in the best possible way. It looks at how you can lead while exploring what AI can do. It is all about allowing AI to show you the path, while you stay curious and keep on track with your vision and purpose. Becoming AI-native means developing and thinking through a handful of core skills: fluency, competency, agency and resiliency. As AI keeps surprising us with its progress, leaders and their teams need to accelerate their learning. We explore how.

Volume 2 is all about "Remaining Human." It shifts the focus and explores how to stay in touch with your human side and intelligently enhance what makes us unique with carefully chosen AI processes and assistance. It revolves around preserving agency, resiliency and building in collaboration, as AI becomes increasingly prominent.

You will find reflections and resonance across the issues and the magazine's design gestures at the relationship between the two volumes, too. The images in Vol. 1 express the idea that we are in something of a drafting stage as we adopt artificial intelligence, but that as we remain human, with enhanced AI companionship, our vision gains a sharper focus and capability as you will see in Vol. 2.

Counter to the far-reaching consequences of AI, not least in its resource allocation and demands for energy and water, we have dedicated part of our Wide Angle section to environmental questions and concerns in a Climate Change Series. Indeed, some might argue that sustainability is a question and challenge that carries equal weight to the advent of AI, so it felt right to draw focus toward that subject in these issues.

AI is forcing a reckoning: What do we automate away, and what should we fiercely protect as uniquely human? We hope these two special volumes of *Think:Act* will help you assess how to become artificial, stay curious and remain human.

[happy reading – and make sure you look at the cover in the dark!]

BECOMING ARTIFICIAL

Look
BACK
on a
whirlwind of
CHANGE



[com/en/Insights/
Publications/AI-think-
therefore-AI-am.html](https://www.ibm.com/en/Insights/Publications/AI-think-therefore-AI-am.html)



[Publications/It-s-time-to-rethink-AI.html](#)

IN

our first issue of *Think:Act* entirely dedicated to AI, charting what felt like a new world. That was even before ChatGPT became the term that everybody knows today. 2018 now seems quaint. "AI has the potential to transform an enormous range of tasks involving analyzing data, looking for patterns and devising strategies in response. What does it mean for your business if speech can be translated instantly from one language to another? If hours of video can be searched, transcribed and summarized? If vehicles can drive themselves and delivery costs for goods fall dramatically? We are about to find out," we wrote back then.

And find out we did.

We came back to AI in 2024, which already seemed a century apart from 2018 in terms of AI development. The front cover of *Think:Act* #42 calmly said: "Don't be scared," capturing the fear of leaders worried about being left behind in the face of rapid AI developments including the advent of GenAI. The magazine explored how AI could impact the boardroom, the workplace, society and you.

Now in 2026, as AI makes giant leaps, we are once again drawn to analyze how the brave new tech will change our world. To meet the moment, we felt we needed more than a single issue to tackle the complexity and challenges that AI could bring. So, here you have in your hands the first of two volumes of *Think:Act* to address the key concerns

AI ARTWORKS: MARIUS JOPEN/THE ROBOTS

 Picture 1

A portrait of Margaret Mitchell, a woman with long, wavy reddish-brown hair and blue eyes. She is wearing a blue denim shirt over a dark blue V-neck top. She has a colorful, multi-colored pendant necklace and a pearl necklace. She is smiling slightly and looking towards the camera.

"Leaders need to unpack the meaning of what AI is and how they can apply it for specific tasks."

Margaret Mitchell

AI expert and former co-lead
of Google's Ethical AI team

→ PAGE 14



**"Leadership is
about carrying
the load, sticking
with the journey
and helping others
get to where
they need to go."**

Garry Ridge

Former CEO of the WD-40 Company
and author of *Any Dumb-Ass Can Do It*

→ PAGE 72

A close-up portrait of Gary Marcus, a middle-aged man with grey hair and glasses, wearing a dark suit jacket over a red and white checkered shirt. He is looking slightly to the right with a thoughtful expression. The background is a blurred blue and white pattern.

"Leaders have to ask themselves right now: Do they want to look out for the long-term value of humanity, or do they just want to make a buck?"

Gary Marcus

Prominent AI skeptic and author of *Taming Silicon Valley*

→ PAGE 14

A portrait of Margaret Heffernan, an older woman with short, wavy, light-colored hair. She is wearing a dark purple top with a black horizontal band across the chest. She has large, dark, tassel-like earrings and a small, colorful, circular brooch on her left shoulder. Her hands are resting on her lap, and she is wearing several gold rings and a gold watch. The background is dark and out of focus.

**"The gold
standard of
decision-making
is the capacity
to make choices
that even those
who don't agree
with them can
understand."**

Margaret Heffernan
Academic and author of
Embracing Uncertainty

→ PAGE 30

Think:Act 48

In focus

AI VOL.1

Becoming ARTIFICIAL



14 Human MEETS ITS MATCH

Five experts share their hopes and fears for the future of AI and explain the questions leaders should be asking now.

24 **Getting up to speed**

It's time to experiment, become fluent in the language and tools of AI and share that knowledge across your organization.

30 **Thinking about thinking**

As AI offers the promise of answers at scale, **Margaret Heffernan** argues that the real challenge for leaders is not efficiency, but judgment.

34 **Predict and prepare**

From forecasting risks to disaster response to reporting, AI can be a powerful tool to fight the climate crisis.

40 **Mend the gap**

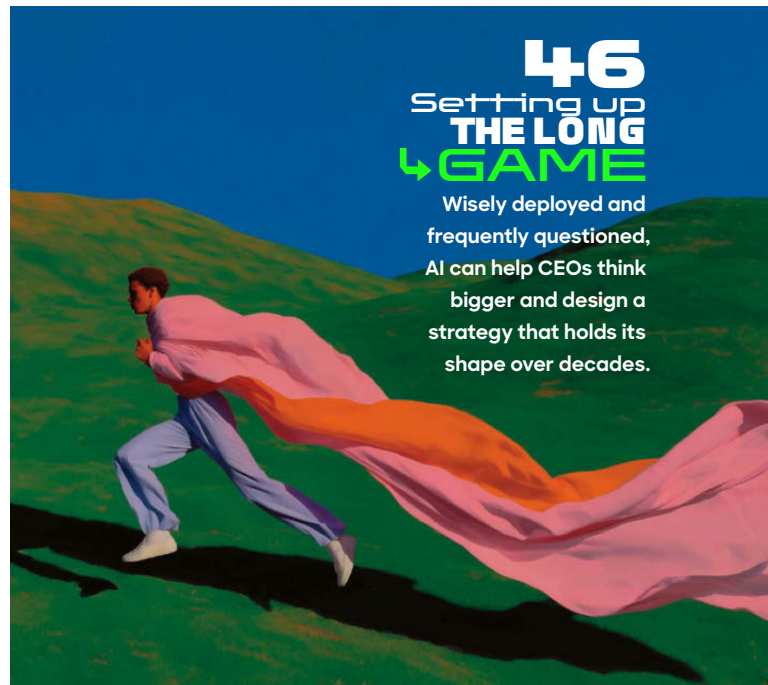
To snare the potential of GenAI, leaders must build an organization that is skilled enough to experiment and empowered enough to act.

"My hope is that people will come to understand that AI isn't some monolithic concept."

— Margaret Mitchell,
PAGE 20

46 Setting up THE LONG GAME

Wisely deployed and frequently questioned, AI can help CEOs think bigger and design a strategy that holds its shape over decades.



Wide angle

Think, act and stay informed



66

Green defense

The best way to protect your business from climate change may be to treat ecosystems as vital protective assets.

54 **Heat resilience**

Extreme heat has become a global operational risk. Companies must act now to protect workers, productivity and their legal standing.

60 **Weathering change**

With extreme weather on the rise, companies that learn to adapt quickly and invest in new strategies will have the competitive edge.

72 **Leadership without friction**

Former WD-40 Company CEO **Garry Ridge** explains why you don't have to be brilliant to be a great leader.

76 **Thought leader**

Harvard Business School's **Teresa Amabile** weighs in on why nothing incentivizes productivity quite like a sense of progress.

80 **Zooming in**

Get the latest analysis on the new credit paradigm and why companies would be wise to brace for higher financing costs.

82 **Three questions to ...**

The late Barry-Wehmiller Chairman **Bob Chapman** on how "caring leadership" is not just a moral choice, but also a strategic advantage.

Editorial

The case for human-AI collaboration

AI-DRIVEN TRANSFORMATION offers a tremendous chance to boost productivity. Yet many companies are disappointed with their return on investment. Why? Firms fail to bridge the gap between technological potential, organizational reality and domain-specific knowledge. If we deploy AI only to replace human labor, we reduce employees to interim gap-fillers.

We need a new approach. Not simply "human in the loop," but real teams between humans and AI that create a new way of knowledge-based interaction. Collaborative systems that work with experts on eye level, not instead of them.

AI is about disruptive technological progress. But it is equally about leveraging our uniquely human capabilities. Successful AI integration demands that leaders master both perspectives. In your hands you hold the first of two consecutive editions of *Think:Act* on AI that will help you understand these nuances and sharpen your edge. I trust you will find it a worthwhile read!

Stefan Schaible

Senior Partner, Global Managing Partner, Roland Berger



BECOMING ARTIFICIAL

Digital

**Roland Berger Insights**

Benefit from expert insights on different industries and business trends:
rolandberger.com/en/Insights/



Think in numbers

Putting a figure on ...
GLOBAL AI SPENDING

\$2.5

TRILLION

The forecasted total global spending on AI in 2026, a 44% increase year on year over 2025.

\$211

BILLION

How much venture capital AI companies pulled in over the course of 2025, 50% of all global venture capital that year and doubling the amount raised in 2024.

47%

OF FUNDING

The percentage of all 2025 venture capital raised by AI companies in North America and Europe by firms with at least one female founder, totaling \$84.7 billion.

59%

OF INVESTMENT

How much of total AI investment flowed into the supporting ecosystem, including AI infrastructure, data provisioning, semiconductors, robotics, security, health care, defense and other AI applications.

SOURCES:
GARTNER, HUMANX AND CRUNCHBASE

Food for thought

Is the AI arms race fundamentally different from other hypercompetitive hype cycles in tech?

by Gary Rivlin

YES - BUT NOT BECAUSE the hype is any more grounded. The difference lies in who is taking the risk and how resilient the underlying institutions are. During the dot-com boom, hundreds of companies went public, shifting risk onto retail investors. When most collapsed, the damage spread quickly. Beneath that crash sat a related bubble: WorldCom, Global Crossing and others bankrupted themselves laying fiber-optic networks long before demand arrived. The timing was disastrous - but the build-out wasn't wasted. That "excess" capacity later made possible YouTube, Netflix, cloud computing and today's mobile internet.

The current AI race echoes that pattern. Hyperscalers are building data center capacity well ahead of today's needs. The crucial difference is that today's builders - Google, Microsoft, Meta, Amazon - are diversified, cash-rich firms funding AI from profitable core businesses. That durability doesn't eliminate risk - it shifts it. As in the late 1990s, the mismatch is between hype and timeline. But AI isn't overhyped long-term. It will be transformative, just as the internet was. But like the internet, it will take a decade-plus to reshape business. AI agents and autonomous workflows will arrive - but not on quarterly timelines.

PHOTOS: IUCHEZAR/GETTY IMAGES; COURTESY OF GARY RIVLIN | ILLUSTRATION: JULIA ZIMMERMANN

Thin

AT A GLANCE

**GARY RIVLIN**

is a Pulitzer Prize-winning investigative journalist who covered Silicon Valley for *The New York Times* and *Wired*. He published his most recent book, *AI Valley: Microsoft, Google, and the Trillion-Dollar Race to Cash In on Artificial Intelligence*, in 2025.

Thoughts to live by

"All that you touch,
you change.
All that
you change,
changes
you."

— Octavia Butler

Science fiction writer,
quote from *Parable of the Sower*

Rethinking buzzwords

Get to grips with
new industry lingo
in a flash with our
stripped-down
explanations of the
latest jargon.



"Bragawatts"

The term describes the inflationary language of the AI infrastructure boom: splashy announcements of vast data center or energy capacity measured in gigawatts, framed as imminent and inevitable.

Often speculative or contingent, these headline numbers function less as concrete plans and more as signaling devices to attract capital, influence policy, shape market narratives and deter rivals.

K

Act

The
redacted
read



Chain
Reaction

Why big tech seems to have made everything worse

A catch-up summary of a new book claiming a few companies that dominate the internet have ruined it.

AUTHOR, ACTIVIST and journalist Cory Doctorow's naughty new word, "enshittification," isn't just a way to say "something got worse." It's an analysis of how online services go bad and make our lives terrible.

With the tone of a doctor, he explains how a few tech companies monopolize our lives. The diagnosis is simple at first: Platforms connect business customers with end users and are good to their users. Then they abuse their users to make things better for their business customers. Next, they abuse the business customers to claw back value for themselves. Finally, the platform becomes, in Cory's words, "a giant pile of shit."

The cure finally comes in the form of a call for antitrust enforcement and hope with some successful actions in Europe against the tech giants.

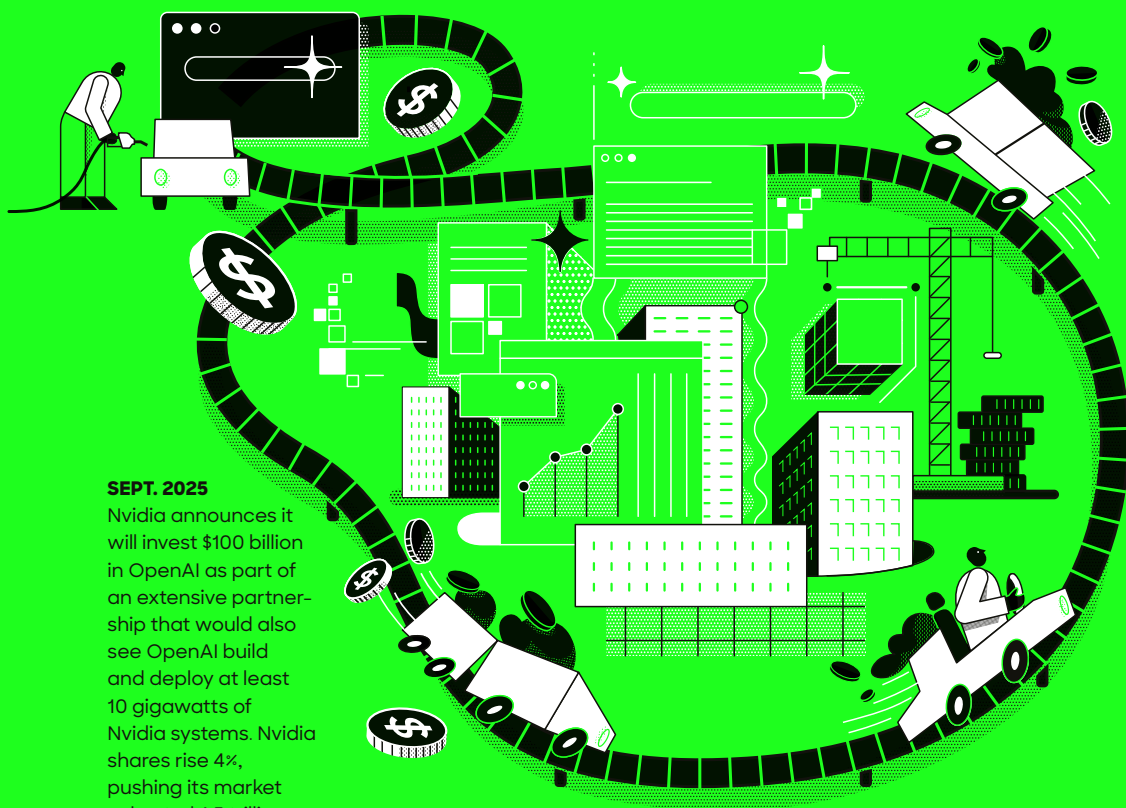
Enshittification: Why Everything Suddenly Got Worse and What to Do About It

by Cory Doctorow, 352 pages. MCD, 2025.

Closed-circuit capital

A WEB OF CIRCULAR FINANCING deals among AI developers and chip, hardware and software companies is powering up. For some, it's echoing the dot-com bust, when the Nasdaq fell 80% from its 2000 peak. By early 2026, the industry had borrowed \$450 billion from private

funds and cycled \$120 billion through special purpose holding companies, hiding some real risk from view. Here's how a high-speed loop of capital – focused on OpenAI – is blurring the lines between customer, supplier and investor, raising questions about competition and accountability.



SEPT. 2025
Nvidia announces it will invest \$100 billion in OpenAI as part of an extensive partnership that would also see OpenAI build and deploy at least 10 gigawatts of Nvidia systems. Nvidia shares rise 4%, pushing its market value to \$4.5 trillion.

OCT. 2025
Ten lossmaking AI startups – including OpenAI and xAI – gain \$1 trillion in collective valuation over the previous year. AMD, Nvidia, Broadcom and Oracle shares are up hundreds of billions after separate deals to deliver computing power to OpenAI.

DEC. 2025
SoftBank invests up to \$41 billion in OpenAI, lifting its stake in the company to 11%. The news comes just weeks after the group liquidated its entire holding of Nvidia for around \$5.8 billion to help fund the deal with OpenAI, causing Nvidia stock to fall 2%.

JAN. 2026
SoftBank enters talks to invest a further \$30 billion into OpenAI. Concerns are raised that the Japanese firm is increasingly seen as a publicly traded proxy for the US company and is tying its shareholders' fortunes to the fate of OpenAI.

LOOKING AHEAD
At the end of January 2026, it was announced Nvidia and OpenAI's September 2025 deal had stalled, causing Nvidia's stock to fall 1.1%. OpenAI, which is still a privately held company, is not required to report its losses.

Best practice

Learn a language with a bit of AI help

SPRECHEN SIE DEUTSCH?

Parlez-vous français? 你会说普通话么? You might answer what's the point now that AI provides you with DeepL to translate any email in your inbox from your Franco-phone, Teutonic or even Chinese partners. But there's a real delight and mind-expanding benefit to learning a language – and perhaps a business opportunity too. With AI tools abounding, you can get talking right away. Quite literally. Popular language apps like Duolingo are AI-powered to help you create personalized vocab lists so you can zero in on the right words for recipes, sports or supply chains. But nothing beats chatting, and a chatbot (which actually talks) can be there for you 24/7 and won't embarrass you if you make mistakes. You can choose the voice you want, and it will outline your errors and help you improve. It's artificial intelligence that makes yours grow.



Economic impact

Wiring the next economy

AI IS REWIRING THE WORLD, leading to a boom in data centers to power this technology. Between 2026 and 2030, up to 100 Gigawatts of new data centers will come online, doubling global capacity and equating to \$1.2 trillion in real estate value. And the financial influx doesn't stop there. In January 2026, Meta committed to pay Corning up to \$6 billion by 2030 to produce the fiber-optic cables to keep its AI data centers humming. But Meta has also met resistance: A \$1 billion site on 1,000 acres of Michigan farmland was vetoed. While some concerns could be brushed off as technophobia, worries about rising utility costs are plugged into reality. Global AI power needs are comparable to the whole of New York State, and Microsoft's Wisconsin data center may consume more power than Los Angeles. Meta is working to expand grids and pay its way, yet concerns over unfair local tax burdens remain. One thing is sure: While data centers create few permanent jobs, the US Bureau of Labor Statistics estimates a short-term shortage of roughly 81,000 electricians.

SOURCES: FORTUNE, JLL, THE WALL STREET JOURNAL, EPOCH AI, WIRED

Act

AT A GLANCE

In focus

In this issue we delve into what advances in artificial intelligence mean for business.

↳ **WORDS BY**
STEFFAN HEUER

+ **AI ARTWORK BY**
ALYS THOMAS

BECOMING ARTIFICIAL

BECOMING ART

Think:Act

What can I help with?

Nobody can keep up with AI right now. What's a good approach to cut through the noise?

Think:Act

How about this for an opening thought: AI moves faster than any magazine, newsletter or mailing list can hope to keep up with. New tools, new hacks, new business models with purportedly exponential growth prospects are popping up just as fast as security patches, dire warnings and attempts at regulation. Why don't we invite five prominent experts to parse the world in 2026?

+ Ask a question



✓ Picture 2



 Refining details...

BECOMING ARTIFICIAL

OFFICIAL

 **Picture 3**

- ## ### / ##### # @ ## === # @ == @@@ : @@

```

-%%%:=@
-%%%:=@
: @%: @ #
= @%: @ #
= @%: @
• #
@ #

+ ++ +++

```

+
:
:
:
:
:
:
:
:
:
:
/
:
:
:
:
:
:
:
@

```
===== . =====
===== / ===== #
===== @
===== #
```

BECOMING ARTIFICIAL

IT GIVES YOU
SUPERPOWERS.
IT DULLS YOUR
COGNITIVE
CAPABILITIES.
IT MAKES YOU
MORE PRODUCTIVE
THAN EVER. **But**
it could also make
you obsolete. ↩
GETTING YOUR
HEAD AROUND
AI'S VAST
OPPORTUNITIES
IS A HIGH-WIRE
ACT OF DIZZYING
PROPORTIONS
THAT DEMANDS OUR
FULL CURIOSITY.

+ ++ ++++ ++ +++

* @ @ = @ @ @ @ @ @

@ @ @ @ @ @ @ @ @ @

[illegible]

HUMANITY IS DIRECTING ever more powerful tools toward the heavens to hunt for signs of alien life. By early 2026, astronomers had identified close to 6,100 so-called exoplanets, or celestial bodies orbiting a star like Earth does the Sun. There are likely millions more, and some of them could well be harboring life.

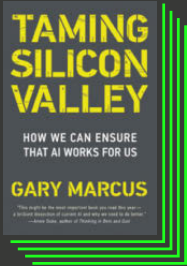
Yet a new life-form may already be among us, right here on Earth: artificial intelligence. Much like an alien species that dropped from the sky, it took us by surprise and is rapidly evolving. What's even more perplexing is that we ourselves are the creators of this species with which we will coexist and at times may well compete for access to resources and attention. This hypothesis no longer sounds far-fetched, and it raises daunting questions around the very essence of human agency and leadership.

WHAT WILL THIS SYMBIOSIS or mind-meld between humans and AI look like? Which skills do tomorrow's leaders need to acquire, and how will they manage workforces that might do away with time-honored apprenticeships and could soon include legions of robots and synthetic employees? What will corporate culture – a decidedly human social construct – look like going forward? How to address the looming disruption of national economies and labor markets in particular? And what are today's students and graduates to make of this new world where they might be competing with or reporting to sentient software?

This In Focus section deliberately embraces the uncertainty and potential of becoming artificial in all its facets. Unlike many other innovations,

Gary MARCUS

➤ Gary Marcus is professor emeritus of psychology and neural science at NYU and founder of Geometric Intelligence, which was acquired by Uber. A prominent AI skeptic, his expertise spans cognitive architecture and the limitations of AI. His most recent book is *Taming Silicon Valley* (2024).



✱ Adjusting colors ...

How would a critic of the current AI hype answer this question: Is all this talk about superintelligence or AGI a distraction?

Think:Act

The goalposts on AGI, or artificial general intelligence, used to be pretty firm: an AI that can do anything a person can do and has the same resourcefulness and cognitive flexibility. I don't think we're close, but we will probably get there. What we have now is this kind of mimicry-based intelligence.

+ Ask a question



What is your greatest hope and your greatest fear for the coming age of AI?

My greatest hope is that we make AI a positive force for humanity, which would require a different approach than we have now, to really fulfill its promise in science, medicine, etc. And that we as a society learn how to not just regulate, but coexist with AI in a way that is humanity-positive. My worst fear is that AI is becoming a tool for authoritarians and will be bad for most people in society.

What's the riskiest dead end that current AI research and commercial deployments might go down today – or are already going down?

All this obsession with large language models (LLMs) is a mistake. They're very expensive to build. They're very unreliable by the nature of how they're constructed. You can't really trust them. They're not really good with facts. It's already becoming clear that we spent the last five years pursuing the wrong road. I'm very supportive of world models. I don't think anybody knows how to do it right, but we absolutely need to work on them. There's no physical law of the universe that says that you need magic biology in order to do it.

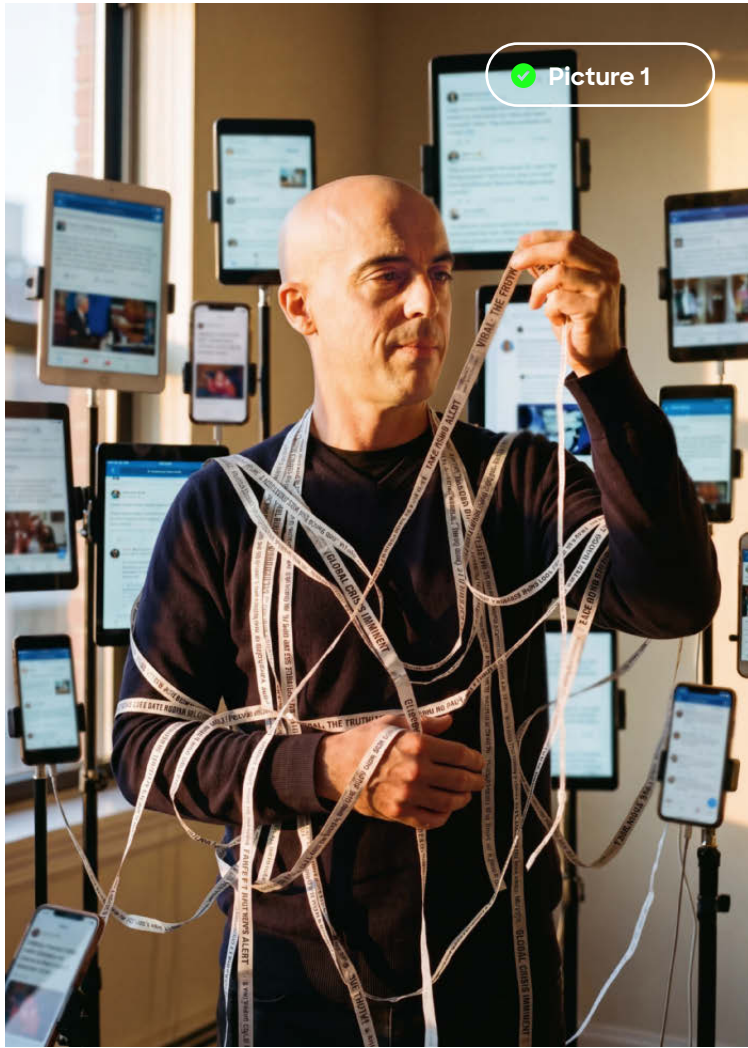
How will the nature and essence of leadership evolve as AI becomes more pervasive?

Leaders have to ask themselves a question right now: Do they want to look out for the long-term value of humanity, or do they just want to make a buck? They can think about what kind of society they want to have, and as leaders, they have a role in shaping that.

What areas of decision-making should stay reserved for humans and not be encroached upon by AI systems?

In the long term, it might be that AI does them all better than people. In the short term, I don't think it does any better than the best people, maybe better than people who don't have expertise. I worry about the ethical side. We build machines that are basically amoral and don't really understand ethical decision-making at all.

% + %
 % % =
 % = %
 % = %
 % %
 % %
 %
 :



Q&A

@
 #
 @ #
 @ #
 @ #
 @ #

What is your greatest hope and your greatest fear for the coming age of AI?

This is the most consequential technology humanity has ever produced. The age of AI will be more impactful to the world than the Agrarian Revolution and the Industrial Revolution combined. We are on the precipice of a tremendous amount of change, and there is great promise and great peril in that potential. What scares me the most are the rapid changes in the labor force and how little time we have to adapt, reskill and change our processes and education.

Who should be more worried about being made obsolete or replaced: leaders, middle managers, or their teams?

Most of the research shows that AI levels the playing field for lower-quality workers or lower-producing workers. But there's another effect that goes in the opposite direction: AI substitutes for them more than for the higher-skilled, experienced workers. We're seeing a complementarity and a substitution effect on these same classes of workers. That's where the human side of AI leadership comes in.

What role will Gen Z and Gen Alpha play in this new world of enhanced, automated work?

Their future is the most uncertain because they have some time before they enter the workforce. The world will look very different. Some things will be more clear while some things will be more dynamic and still changing. There are certain skills that are very important and are less easily substitutable by AI – those are human-centered or human-touching skills.

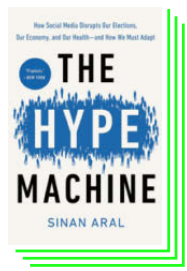
What critical skills do leaders need to acquire – and in what time frame – to remain relevant and in charge?

Leaders need to immediately understand the technology, its capabilities and limitations, so they can judge when to apply it and when not. Number two is to understand the art and science of human-AI collaboration.

BECOMING ARTIFICIAL

Sinan Aral

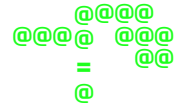
→ Sinan Aral is the David Austin professor of management, marketing, IT and data science at MIT Sloan and director of the MIT Initiative on the Digital Economy. His research focuses on social media, AI, misinformation and digital networks. Aral is the author of *The Hype Machine* (2020).



Can we pivot to a more management-focused perspective – how can leaders react to change or anticipate it?

+ Ask a question





- **+++ ++++ / ++++++ + @ ++**



How will the advent – or absence – of AGI or superintelligence change how businesses and national economies operate?

I don't really know what AGI is, no one does. The concept of AGI provides a narrative for people to move forward with their own goals, ideas, hopes and fears. Leaders need to unpack the meaning of what AI is and how they can apply it for specific tasks.

What areas of decision-making should stay reserved for humans and not be encroached upon by AI systems?

I feel like all sort of consequential decisions should have a human involved in having a final say. Even simple automation can have pretty massive repercussions. I don't think we're at a point where AI systems are reliable enough to make appropriate decisions for people on behalf of people.

What is your greatest hope and your greatest fear for the coming age of AI?

My hope is that people will come to understand that AI isn't some monolithic, undifferentiated concept, but actually a variety of different technologies that can be strategically implemented in ways that are beneficial. My biggest concern is around the centralization of power and the groupthink accompanying it.

What's the biggest and riskiest dead end that current AI research and commercial deployments might go down – or are already going down?

I don't see anything as a dead end because I always see opportunities in any path. Everybody is talking about LLMs, and it's tiring, because there is a vast world of things we can do. It shows a lack of creativity and innovation.

Who should be more worried about being made obsolete or replaced – leaders, middle managers, teams at large?

A lot of this comes down to power. People who have the least power in the AI narrative are the people who are making minimum wage and struggling to pay their bills every month. Low earners are the most at risk for being replaced.

PHOTO: ANNIE MARIE MUSSELMAN + AI ARTWORK (BACKGROUND): ALYS THOMAS

BECOMING ARTIFICIAL



Margaret MITCHELL

Margaret Mitchell is chief ethics scientist at Hugging Face and has previously worked at Google AI and Microsoft Research. A pioneer of AI model cards, she specializes in fairness in machine learning, methods for mitigating algorithmic bias and responsible AI development.

```
: @% :
= @% :
= @% :
```

We seem to be enthralled by large language models? Any thoughts as to why that is?



● Think:Act

As humans, being able to have a conversation with a system stimulates a sense of alignment that other kinds of technology don't.

+ Ask a question



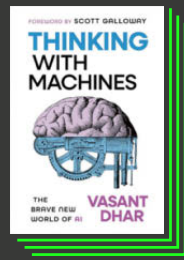
```

% % % % % % % % % / % % % % % % % @
% % % % % % # % % % % % % % % + % == % % % % : % % % |
% % % % % - % % %

```



 Vasant Dhar is professor at the NYU Stern School of Business and the Center for Data Science. He was one of the first researchers to bring machine learning to Wall Street. Dhar specializes in AI, prediction and trust in automated systems. He is the author of *Thinking With Machines* (2025).

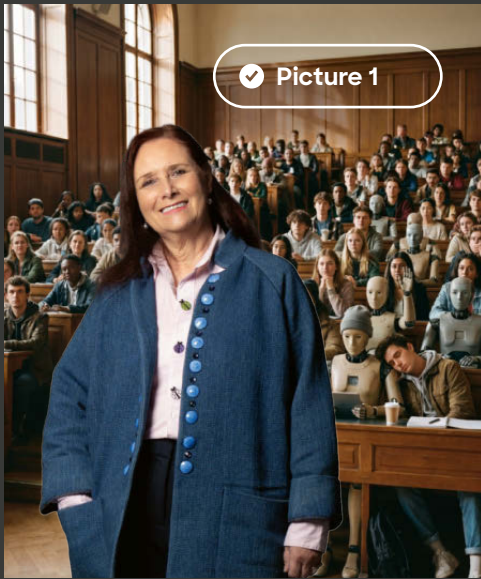


+ Ask a question

I'm not sure there is a choice to scale it back. Why would you? For me, there is no choice but to move forward with this technology, as opposed to sticking your head in the sand.

Kay Firth-Butterfield

Kay Firth-Butterfield is CEO of Good Tech Advisory and served as the World Economic Forum's inaugural head of AI from 2017 to 2023, having been appointed the world's first chief AI ethics officer in 2014. Her focus areas are AI governance, ethics and law. She is the author of *Coexisting with AI* (2025).



Q&A

What is your greatest hope and your greatest fear for the coming age of AI?

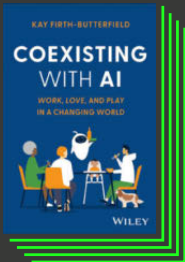
My greatest hope is that humans will be in charge of using AI for the benefit of humans and the planet. My greatest fear is that by the time humans understand enough about the way that AI is being used generally and signal to their government representatives that they want to be in charge, that horse will already have bolted.

What are the crucial watershed moments when leaders need to decide whether to "hire" or "fire" their AI?

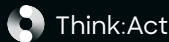
It's the same decision that you might make around a human employee. Do you tolerate mistakes and up to what level? Above that level, you would sack your employee, and the same is probably true for an AI agent. International Data Corporation expects that 20% of the largest companies in the world will be sued because of their AI agents by 2030. It's likely that they're right because a lot of companies are rushing to introduce AI agents.

What areas of decision-making should stay reserved for humans and not be encroached upon by AI systems?

Let me tell you about my own no-go area. I had breast cancer three years ago, and I was very happy to have as much AI-aided help as the doctor needed, because AI is really good at recognizing patterns. But when I had the surgery, I would not have wanted an AI doctor. Liability is an open question. Then my medical oncologist asked me, wouldn't it be amazing if we used AI to help you walk you through your journey with cancer? And I said no. If I'm going to die, I want to hear it from a human, and not a machine.



Let's bring some more ethical considerations to bear. How are we doing so far living with AI?



Food for thought: 20% of American men have an intimate relationship with a chatbot. They're bringing that perception of AI to your business or to their studies, and that's just wrong. This is a machine that guesses - and if you don't drive that point home, they won't use AI wisely inside your company.

+ Ask a question



: @% : #
= @% : :
= @% : %

Okay, that was a fascinating panel. Can you please summarize the main points these experts made?



- ✓ **AI's benefits may flow to the few, not the many:** Long-term societal value versus short-term gains will shape whether AI benefits many or concentrates harm.
- ✓ **The LLM obsession may be a costly dead end:** They are expensive, unreliable and crowding out more promising approaches.
- ✓ **Work disruption will be fast and uneven:** Lower-wage roles face higher risk, while human-centric skills gain importance.
- ✓ **For decisions that truly matter, keep humans in the loop:** AI lacks judgment and accountability where consequences are significant.

+ In the next volume, we want to speak with five more experts about AI, asking them the same set of questions for fresh and different perspectives. Can you preview for our readers who these five are and why their opinion matters?



Finalizing ...

Natalie
MONBIOT

- AI twin and virtual human economy pioneer
- Former digital media exec for major brands
- TEDx speaker on trustworthy digital twins

Andrew
KEEN

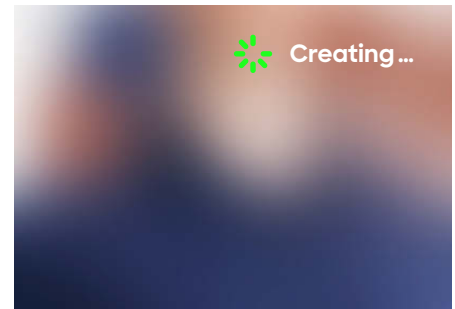
- British-American author and prominent internet critic
- Author of *The Cult of the Amateur*, *The Internet Is Not the Answer*
- Known as the "Antichrist of Silicon Valley"

Rasmus
ROTHE

- Co-founder of Berlin AI venture studio Merantix
- PhD in computer vision from ETH Zurich
- Forbes "30 under 30" AI and deep learning researcher

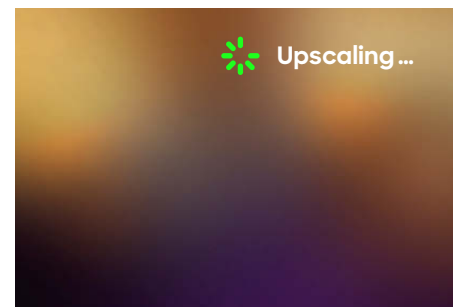
Kaifu
ZHANG

- Former head of AI at Alibaba International Digital Commerce
- PhD from INSEAD
- Startup founder and AI optimist



Richard
SOCHER

- Pioneer in natural language processing (NLP) and prompt engineering
- Former chief scientist at Salesforce
- Founder of AI search engine you.com and AIX Ventures



BECOMING ARTIFICIAL

@
@
= #
: @% : @ #
= @% : @ #
= @% : @
● #
@ #

[done]

@@@@
@@@
= @
@

||||| || | ||| ||||| | || ||||| | ||||| || || ||| | ||||| || |||



Enhancing features...

BECOMING ARTIFICIAL



Picture 1

+ AI ARTWORK BY
MANAR ABOUSHAWALY

Think:Act
Ask me anything

What makes me an AI native?

Think:Act
Are you experimenting with AI tools firsthand, or just reading about them? Do you have people around you who can translate between business problems and AI solutions? Is AI literacy measured and rewarded in your organization?

+ Ask a question



@ :@%:
 =@%:
 @
 @
 @
 @
 @
 •
 @

 Picture 2

EXECUTIVES ARE
 STILL DRAGGING
 THEIR FEET AND
 SHUN EXPERIMENTS
 WHEN IT COMES
 TO learning the
 language and tools
 of the AI era. ↪
 YET BECOMING
 FLUENT AND
 SHARING THAT
 KNOWLEDGE ACROSS
 THE ORGANIZATION
 PAYS REAL
 DIVIDENDS.

BECOMING ARTIFICIAL

@

+

+

++
+

++++ ++ % +++++ +++++
 ++ = +++++ +++ @ +++++

@



WORDS BY
 FARAH NAYERI

GETTING UP + TO SPEED



Picture loading...



Utley has his own pieces of advice for C-suite leaders. To start with, he says, "do the work yourself first." Second, make it visible: share your screen in meetings and show what you're doing with AI. And third, ask a different staff member each day: "Have you tried AI?" That question "plants the idea" in the mind of your staff, "gives them permission" to use AI, and allows you to ask for follow-ups later.

@ / ##### + @ ##### # @ @ #####
@ == @ @ @ : @ @ | @ @ @ @ - @ @
@ @ @ @ @ @ @ @ @ @ @ @ / ##### @ + @ @ #####
@ @ - @ @

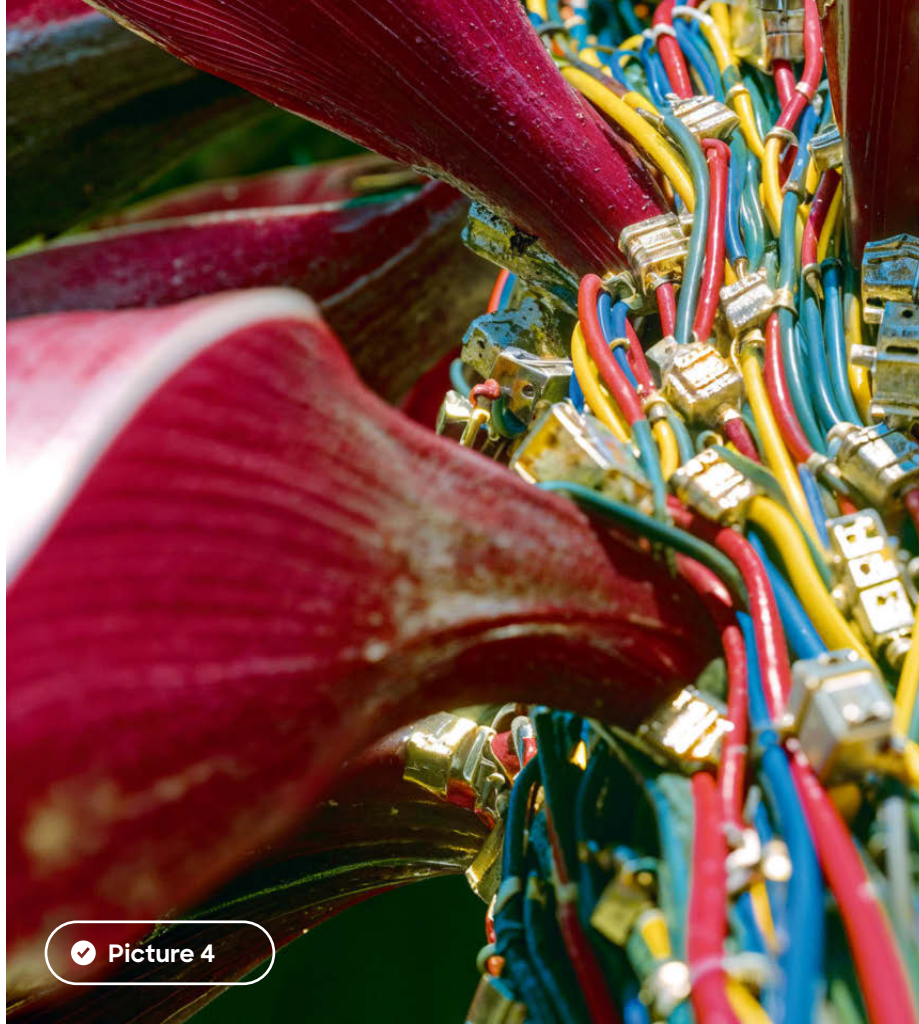
face in the next few years, and they may pose a significant impediment to the effective and broad adoption of AI."

Anderson acknowledges those hurdles. "It's not that AI is replacing humans," he says. "It's actually enabling work to be done that was not being done in the past." One example he cites is client follow-up. Some of the companies Anderson works with receive 100 to 200 million pieces of feedback a year in the form of surveys, online reviews and call center conversations. "No organization has the human capacity to follow up and close the loop on all those," he says. It's AI that enables that follow-up.

At the executive level, Anderson says his entire leadership team makes daily use of a Google tool called NotebookLM which creates a digital information pack for each meeting, loaded with the preparatory content, context and historical data. The AI is then asked for trends, recommendations, insights and other things to look for. "It just enables me as a human to look at an incredible amount of information and get the insights that matter in minutes," he says. Utley couldn't agree more. AI "doesn't replace humans," he believes. "Assisted humans will replace unassisted humans." In other words, "the competition isn't us versus the machine, it's me versus somebody who's being augmented by the machine."

Diarra Bousso – the Senegal-born founder of Diarrablu, an AI-first fashion company – is a good example of what an AI-augmented leader looks like. She was a bond trader on Wall Street when she threw it all in and changed direction. Now Bousso runs a sustainable fashion and resort wear brand. While garments are produced in a factory by artisan communities in Dakar, Senegal, much of the lead-up to production is AI-enabled, reducing textile waste by more than 60%. Bousso calls AI "an amplifier of what you are already. If you're lazy, it's going to make you lazier. If you're smart, it's going to make you smarter. It's not magic." [See box at right]

INSIDE COMPANIES, ANOTHER HURDLE to wider AI use is employee concern that if they admit to using it, they'll be seen as cutting corners, not putting in enough hours and not being productive. "I would put that right back on the boss. That's your fault," counters Utley. "If your people are embarrassed or hesitant, it's because you have not done a good enough job of letting them know that that's now the way to do great work." Bousso describes that feeling as "AI shame," and admits there was a lot of it in her



Picture 4

BECOMING ARTIFICIAL

THE DIARRABLU CASE STUDY

A growing palette of AI tools helps fashion brand Diarrablu identify trends and reduce waste in an industry where 85 billion garments are discarded every year. Here's how:

1.

A typical fashion company predicts demand, builds inventory, then sees if it sells. Diarrablu sells first, then builds the product by presenting designs (some real, some AI-assisted) to social media and asking: Would you buy this? Votes come back instantly, allowing Diarrablu to save money and avoid waste.

2.

The next step is figuring out how much of a garment to release and when. With an AI tool developed in-house, Diarrablu determines that based on weather and past consumer behavior. Goods are made only after customers order them. Bousso calls the process a "demand chain" rather than a "supply chain."

3.

The team running Diarrablu functions like an AI lab. Though everyone works remotely, they use AI to find a way of amplifying what they do on a daily basis. People document their AI tools – whether it's a concept, a prompt, or a recording tool – and add them to an internal page that's open to everyone in the company.

++++ +++++ ++ • +++++ +++++
 ++ / +++++ ++ # +++++

79%
 UP FROM
69%

The increase in executives from 2025 to 2026 who consider responsible AI a top priority.

SOURCE:
 THE 2026 AI & DATA
 LEADERSHIP EXECUTIVE
 BENCHMARK SURVEY

company, too, because AI is clearly polarizing. On the one hand, it is a powerful tool. On the other, it can be viewed as "you don't have a brain, and a machine is thinking for you," she says.

Yet another important concern in terms of AI: data privacy, safeguards and governance. According to the AI & Data Leadership Executive Benchmark Survey, 79% considered responsible AI a top priority – up from 69% the previous year – and 95% think safeguards and guardrails are necessary. "The issue here is fear and trust," says Anderson, who points out that whenever he is closing a major deal, he will inevitably be pulled onto a call with the chief security officer. The question is always the same: "How are you using our data?" Anderson says a company such as his can prove its trustworthiness through its track record and through independent certifications.

While things are changing in the executive suite, there are still plenty of CEOs in the world today who have never used AI and who don't know where to start. Mollick has one piece of advice for them: "Pay \$20, buy access to one of the three leading AI systems and try using it for 10 hours this week. Put in every decision you legally can – every choice, every conversation" and "see what it's good or bad at. If you're not impressed, that's useful information. If you're impressed, that's useful information." Overall, Mollick is optimistic that "humans will find more benefits than drawbacks." And that large-scale trial has to start at the top.

[done]

BECOMING ARTIFICIAL



I need to take this to my team to discuss. Please give me the key points in a brief summary.

 Think:Act

LEAD AI ADOPTION FROM THE TOP:

Executives who actively use and demonstrate AI create the cultural permission and momentum needed for wider organizational adoption.

TREAT AI AS AUGMENTATION: The technology delivers greatest value when it expands human capacity, insight and responsiveness rather than simply reducing headcount.

CLOSE TRUST, SKILL AND CULTURE GAPS: Job loss fears, governance concerns and "AI shame" still slow adoption despite growing investment and executive interest.

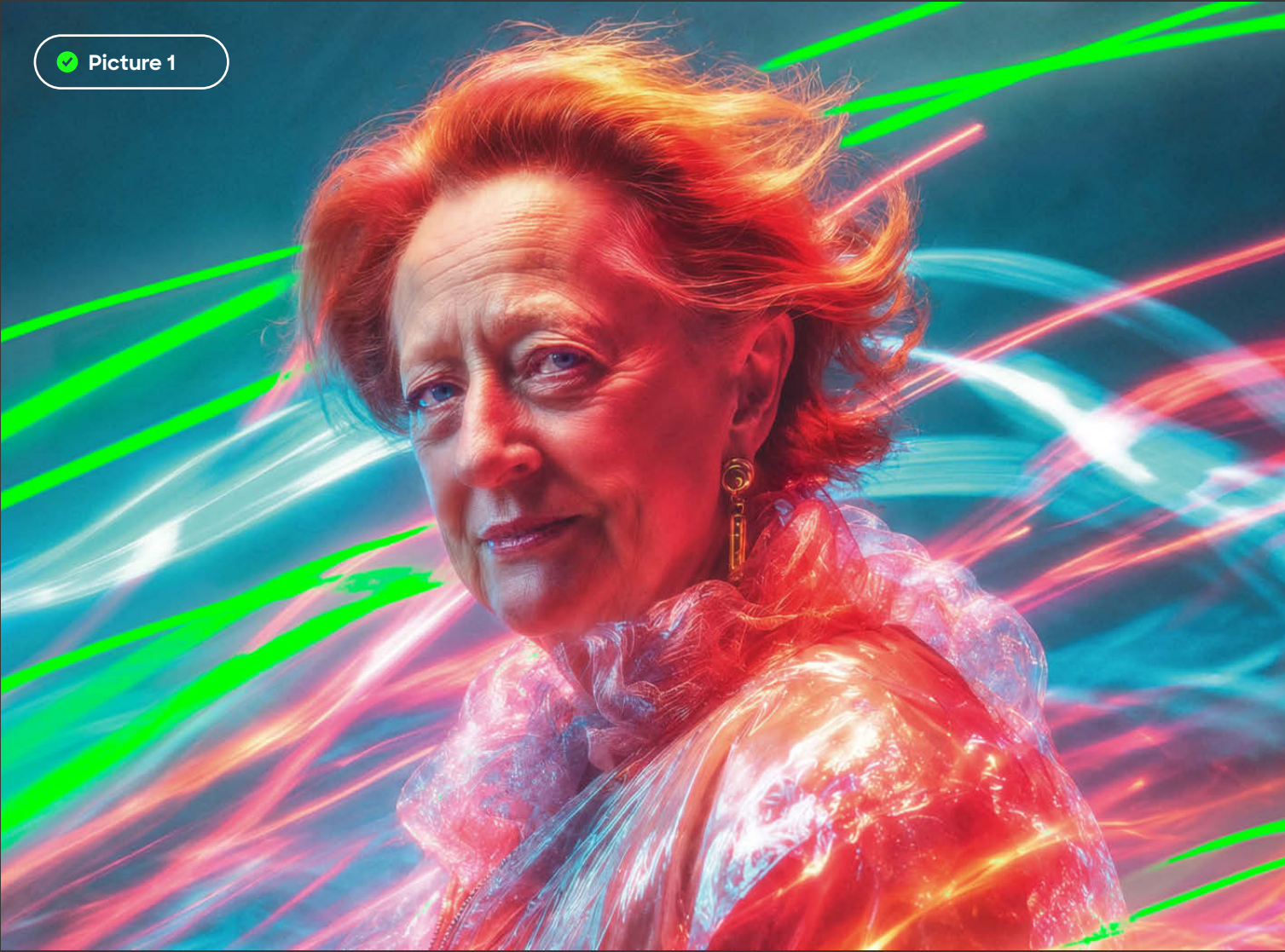
+ Ask a question



##**%#%#%###**###

BECOMING ARTIFICIAL

Picture 1



Adjusting color...

Think:Act

What's on your mind?

I keep hearing a lot about Margaret Heffernan. What can you tell me about her?

Think:Act

Margaret Heffernan is an American-born entrepreneur, CEO, writer and author. She's best known for her 2011 book *Willful Blindness*. Across several books, her consistent target is the same: our dangerous over-reliance on certainty.

+ Ask a question



/ #####
•

BECOMING ARTIFICIAL

AI models rely on static, statistically compressed patterns of data; in a world characterized by uncertainty and ambiguity, this is useful but inadequate. Models deal with the measurable, and much in life can't be translated into numbers. On a scale of one to 10, how much do you love your child? Your partner? The numbers tell you nothing; self-reporting can vary minute by minute. At work, engagement surveys indicate trends, but in private, seasoned HR professionals acknowledge that they are vir-

+ AI ARTWORK BY SY GOLDSTEIN

tually meaningless. Is engagement up because the sun shone or data was collected on a Friday, or down because it was a Monday? How do you know?

COMPLEX SYSTEMS MAY REPEAT THEMSELVES, but not predictably, so patterns can prove to be dodgy guides. Technology easily makes us forget what we know about life – but it is in the life of an organization that leaders must lead. Social context, embodied experience, wisdom over time: None of these are encoded in Large Language Models (LLMs). Uncertainty is one defining quality of human life, poorly represented in AI. All models make assumptions about what good looks like; in technology, this is usually assumed to be efficiency or utility maximization. But these qualities carry risks when too tight margins leave companies without capacity to respond to shocks and surprises. In addition, endemic uncertainty requires that not all choices be defined by the same values, but in LLMs what those values are is frequently opaque.

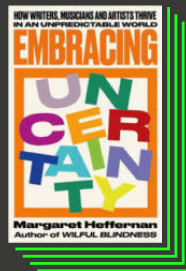
AI also has an inadequate sense of context, which keeps shifting. There is no data from the future, so AI must work with data from the past. That doesn't mean it's useless, but it does mean that it cannot reflect unpredictable shifts in attitudes, possibilities and values. It's better seen as a provider of options than answers. So it is incumbent upon leaders to understand how, when and where AI is useful and how to interpret and question its outputs. As tempting as it might be to grasp at the machine-generated "answer," to do so isn't just an abnegation of responsibility, but a failure to understand leadership itself.

The gold standard of decision-making is the capacity to make choices that even those who don't agree with them can understand. But how do you explain decisions you haven't made – and don't understand yourself? Active thinking, connecting knowledge to the world, is fundamental to trust, timeliness and legitimacy. Being able to think without banisters, to have a conversation with oneself, free of rigid ideologies, assumptions, habits and dogma, is critical for the life of any organization. It is what stakeholders look to leaders for. This may be one reason why, for the last two years, the World Economic Forum's Future of Jobs Report insisted on the importance of both critical and creative



AS TEMPTING AS IT MIGHT BE TO GRASP AT ↴ the machine-generated 'answer,' TO DO SO IS A FAILURE TO UNDERSTAND LEADERSHIP ITSELF.

+ MARGARET HEFFERNAN



Embracing Uncertainty
by Margaret Heffernan, 214 pages, Policy Press, 2025.

thinking. More than answers, the art of asking great questions becomes paramount to analyze the meaning and consequences of AI "answers."

EFFECTIVE QUESTIONS DON'T PRESUPPOSE binary answers; like a great surgeon, a great question will open up a body of contingencies and possibilities, probing for options and risk. Critical thinkers work from the assumption that there is always more to find, always something missing. This can't be done alone; leadership thinking still requires the skill to think together, assembling the appropriate array of knowledge, experience, expertise and perspectives around questions that matter. That also requires the capacity to listen and to interrogate. AI, which is morally opaque, demands ethical examination: Without excavation, decisions can be made but their legitimacy will be fragile.

But why the emphasis on creative thinking? Technology frequently renders thinking, products and services generic, undistinctive and uncompetitive, making innovation vital. With AI, strategy becomes, more than ever, an act of imagination. Creative people are often ahead of their times; hence avant-garde. They start from curiosity, noticing anomalies and quirks, with no agenda, cultivating



What might a **HUMAN** ask, but **AI** might not?

Great questions are critical. They look for what you – or any AI tools involved – may have missed.

- What's wrong with the answer?
- What is it missing?
- How can we explain it?
- Are we taking enough risk?
- How much of the decision do we need to make today?
- What information or data might change the way we think about this?
- If we had more time or money, would this be an adequate solution?
- What if we had less time and money?
- Who else needs to be in this discussion?
- If this went wrong, how would it go wrong?
- What else would we need for this to succeed?

BECOMING ARTIFICIAL

a well-stocked mind. Over time, random data points coalesce around something – an idea, image or sound – and creatives often start work with no plan.

The self-efficacy to find sense and meaning along the way, to invent through experimentation and through discovery, is a rich, adaptive form of sense-making that develops initiative, originality and resilience. Such aptitude, together with a marked reluctance to repeat themselves, enables creative people to respond productively to the unexpected and to drive innovation. Applied to problem-solving, such capabilities may be idiosyncratic, but are the best (and perhaps the only) antidote to the generic nature of technology-driven output. It's worth remembering that AI was once touted as a quick and easy answer to drug discovery. But the sheer complexity of human biology has disappointed investors.

Leadership once was increasingly technocratic. Now AI challenges us to contain paradoxes: to match urgency with patient questioning, focus with mind-wandering and skepticism with faith, the optimism all leaders must have that they, and those they lead, bring unique human skills to urgent problems and inventions. This shift won't happen by magic. It will take some thinking ... **[done]**

As a leader, I want to embrace AI as a tool but am concerned about the consequences of technology-driven decisions. What should I watch out for?

Think:Act

LOOK TO AI AS INPUT, NOT AS AUTHORITY:

The real world is messy and ambiguous. AI tools operate with static patterns that don't always align with or reflect the subtleties of life.

PROTECT SPACE FOR HUMAN JUDGMENT:

Leadership starts with thinking and decision-making grounded in lived experience and context, something AI cannot replicate.

ASK BETTER QUESTIONS TOGETHER:

Collaborative, critical inquiry combines diverse perspectives and ethical scrutiny to move beyond generic AI-driven answers.

+ Ask a question



+ AI ARTWORK BY
ROOPE RAINISTO

###

-+

#++

=#@%

PREDICT and PREPARE

:=##:

BECOMING ARTIFICIAL

FROM FORECASTING RISKS
TO DISASTER RESPONSE
TO REPORTING, AI CAN BE
A POWERFUL TOOL TO FIGHT
THE ↘ **climate crisis**, IF
COMPANIES CLOSE THEIR
DATA GAPS AND KEEP
HUMANS IN THE LOOP.

+= ' * * * * : : : : : :

::



Think:Act

How should we start?

Can tech help me weather
the storm?

Think:Act

AI turns climate risk from a guessing game into a data sport – enabling real-time monitoring, extreme weather prediction, supply chain stress-testing and regulatory scenario planning before the storm hits, literally and figuratively. But none of it works without clean, structured data. Garbage in, catastrophe out.

+ Ask a question

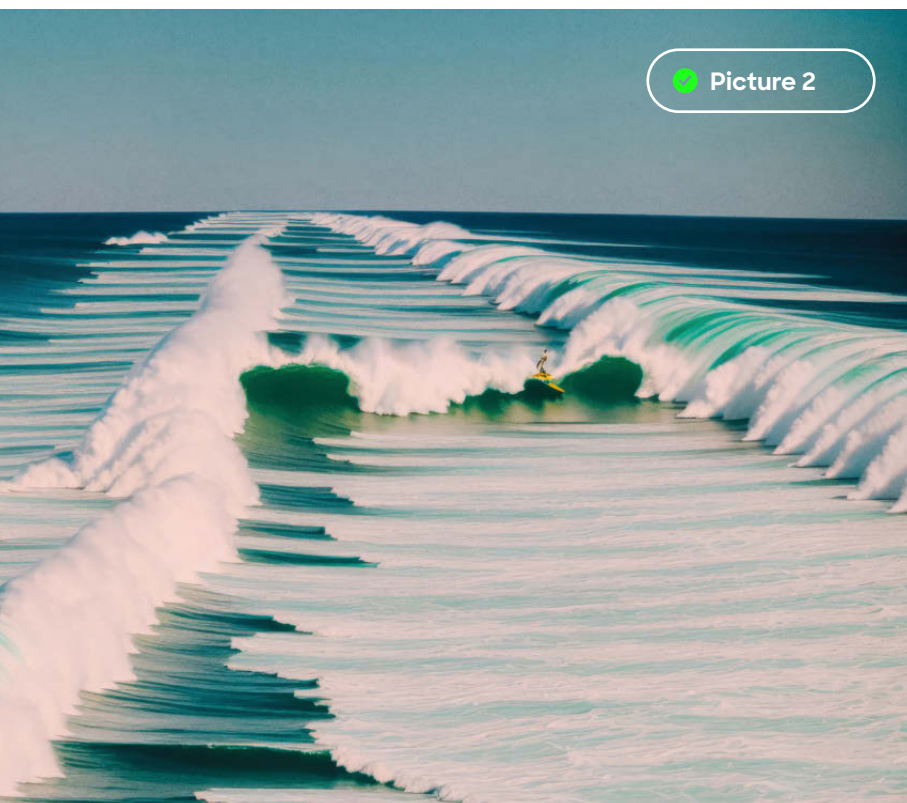


#####*#####%#####%#####%

+ +



 Picture 2



AI

AI ISN'T JUST A BUZZWORD FOR US," insisted Jason Glickman, executive vice president of US utility firm PG&E in November 2025, as he addressed a crowd of industry peers. "It's a tool we use every day to protect communities, improve reliability and accelerate the clean energy transition." His words weren't corporate bluster. Earlier that year, PG&E had unveiled a comprehensive three-year plan for how it would use AI to tackle the rising threat of wildfires in California. Those plans include AI-backed weather forecasts to pinpoint risk, pole-mounted sensors capable of identifying vegetation quietly smoldering and a vast data collection network of drones and high-definition cameras, processing images at speed and quickly alerting engineers to a potential problem.

Already, the investment had helped ensure no major wildfires resulted from the company's equipment in 2023 and 2024 – despite catastrophic blazes both years destroying thousands of acres, homes and structures and a 172% increase in California wildfires since the 1970s as a result of climate change. It's just one of several examples emerging as to how AI may be an incredibly effective tool in bolstering companies against the climate crisis, be it by rerouting complex supply chains, optimizing agriculture or simply making sense of the sea of ESG data with which companies are increasingly required to contend.

But as companies like PG&E forge ahead, for the majority there's a tension between what is possible and what is feasible. When business network BSR carried out a small study of sustainability teams at large corporations across the US, Europe and Asia in August 2025, they found that AI use was in most cases "quite nascent," says Chief Impact Officer Laura Gitman. "Even the companies at the forefront of using the technology across their wider business were fairly nascent in how they were using it in the sustainability team." Given the significant potential upsides of embedding AI in ■

efforts to reduce environmental impact and manage ESG strategies, what then is giving senior leadership pause?

FOR EARLY AI ADOPTERS, there are arguably three main areas in which they're using the technology to reduce environmental footprint. As increasingly extreme, unpredictable weather events destroy crops, transport networks, buildings and telecom networks, AI-enabled forecasting tools such as Nvidia's Earth-2, Google DeepMind's GraphCast or Microsoft's Aurora are providing companies with the means to predict and prepare for disaster. Insurance firm AXA, for example, uses Nvidia's Earth-2 to improve its hurricane risk assessment, simulating thousands of years of hypothetical hurricane scenarios. This data-driven approach can be used for other risks as well. Japan's bullet trains use AI-enhanced early warning systems to detect early seismic waves and trigger emergency brakes before an earthquake hits.

The technology is even being deployed in the midst of disaster, says Monique Kuglitsch, innovation manager at the Fraunhofer Heinrich-Hertz-Institut (HHI) in Berlin and chair of the UN-led Global Initiative on Resilience to Natural Hazards through AI Solutions. "We've seen people using AI to strategically place traffic sensors so that when there's an evacuation, if a tree blocks the road or a bridge is flooded, you don't end up with jams. We see AI used in decision support systems," she adds, "helping first responders prioritize where they send help and distribute supplies."

As Saskia van Gendt, chief sustainability officer at Blue Yonder, an American supply chain management company owned by Panasonic Corporation, sees it: "AI has the potential to be a supercharger when it comes to optimizing supply chains." AI can map out optimal transport routes for reducing fuel use and emissions, route vehicles away from ongoing disruption and synchronize transport and warehousing to avoid inventory obsolescence, she explains. "There are also vast applications around planning and forecasting to reduce overproduction and waste," particularly in product-first industries like food and fashion.

In agriculture too, AI's use is projected to grow, from \$1.7 billion in 2023 to \$4.7 billion by 2028, as the technology equips farmers to design more climate-resilient crops, optimizing soil, water, fertilizer and even plant genetics to maximize yield. "When you think about sustainability, especially nature-based systems, it's a complex system of

#

NATURE-BASED SYSTEMS ↪ are complex systems OF MANY DIFFERENT INTERACTIONS. WE CAN USE AI TO IMPROVE OUR UNDERSTANDING.

+ A.J. Kumar

Vice president of sustainability sciences at Indigo Ag



many different interactions," says A.J. Kumar, vice president of sustainability sciences at agricultural firm Indigo Ag. "We can use AI and machine learning to improve the accuracy of our understanding and what's the best thing to do in each case."

With companies increasingly obliged to transparently collect and report on a growing laundry list of sustainability metrics – from carbon emissions to water, waste and land use – AI can save teams hours and hours by automatically trawling through vast reams of raw datasets and converting them into meaningful insights. It can even help plug data gaps, points out Rupert Bull, CEO and co-founder of data and analytics firm The Disruption House in London. One example is a large, regulated corporation required to report on indirect or Scope 3 carbon emissions, which is grappling with smaller, less regulated stakeholders in its supply chain that lack robust data on their footprint. "Everybody has a sustainability exhaust, whether they're large or small, and you can use technology powered by AI to effectively create a

=%%%+

3
WAYS
AI TOOLS
CAN HELP
COMPANIES



1
Forecast
and respond to
climate-
related risk



Improve
operational
efficiencies



Enhance data
collection and
reporting of
sustainability
metrics

digital analyst that looks at the company and what it's doing to score, profile and benchmark it. It removes that cloak of invisibility," he explains.

For Mariah Levin, executive director of the Hamburg-based sustainable entrepreneurship program beVisioneers, all these compelling use cases cement the fact that AI should be fundamental in efforts to accelerate change. The early-stage innovators she works with "are very much at the forefront of thinking about how to leverage technology to make the most of resource constraints in order to protect the planet," she says. "They're looking at reduction of carbon emissions and waste management, and they're really taking full advantage of AI in order to achieve those ends."

BUT FOR MANY LARGER CORPORATIONS, it's proving trickier. Though the BSR study did find that AI was being used by sustainability teams for some more strategic tasks like materiality assessments and identifying supply chain risks, it was far more commonly used for simple data collection and consolidation, or for productivity gains, like summarizing reports and translating documents. It means that what's most compelling and what's most common when it comes to AI's use for sustainability throws up two "different answers," says BSR Chief Impact Officer Gitman.

There are, of course, more bureaucratic hoops and policies to jump through at a larger company versus a scrappy startup. But there are also other barriers at play. To start with, "there's concern about hallucinations, false confidences and wrong information when it comes to data," says Gitman. As a result, companies are using AI more as "a second pair of eyes on a first draft, but that means it's not giving them the efficiencies it needs to as there's still a lot of checking." Companies are also stymied by low-quality inputs. "A lot of them haven't modernized their data," she explains. To leverage AI, you "need all of your data in a clean place, that AI can use, that is proprietary to your business," Gitman adds, and then to feed that into state-of-the-art data interpretation tools.

Of course, both of these problems might arise in any area of a business looking to incorporate AI, but they're arguably heightened in sustainability. Data related to climate often has more gaps, in part because it stems from natural, complex ecosystems, and also because companies are being asked to understand and report on data often outside their direct control and hard to pin down. "If you're

Picture 4

Give me some examples how Nvidia's Earth-2 tool is used.



Extreme weather forecasting:
National weather services are using Earth-2 to generate forecasts up to 15 days ahead across more than 70 weather variables.

Hyperlocal storm nowcasting:
GenAI trained on satellite and radar data predicts storm development.

Kilometer-scale climate modeling:
The Max Planck Institute for Meteorology used Earth-2 to produce planetary-scale climate predictions with unprecedented detail.

+ Ask a question

%
*
%
%

=%%%+



trying to calculate the carbon footprint of parts of your supply chain, whether it's a box of printing paper or a component for your product, there's usually just not great data, and you're making a lot of assumptions," says Dan Travers, co-founder at Open Climate Fix, a nonprofit based in London.

THE HIGH STAKES IN SUSTAINABILITY also mean that any fallout from hallucinations or inaccuracies is likely to be greater than, say, an error in a press release. Take sectors on the front line of sustainability innovations, like the energy industry, says Travers. "A blackout is front-page news. So those companies are very cautious about implementing new things that might cause failures."

Conversations about the governance and ethics of AI are also heightened in corporate sustainability teams. It's one reason that Kuglitsch worked with colleagues from the World Meteorological Organization and UNEP in 2020 to pitch an initia-

=%%%+

@ @ *

IF PEOPLE ARE GOING TO USE AI TO MAKE DECISIONS ↘ that impact society YOU WANT TO MAKE SURE THAT YOU CAN REALLY TRUST IT.

+ Monique Kuglitsch

Innovation manager at the Fraunhofer Heinrich-Hertz-Institut

+++++

#####

Weighing up the environmental benefits of AI tools against their sizable carbon footprint is a very real dilemma for sustainability professionals.

Hamza Azim. As breakthroughs are made and hardware becomes more efficient, that balance will shift. But right now it's a balancing act for those tasked with reducing the company footprint, rather than adding to it.

Where you opt to use AI, "make sure that it's anchored in a real business need," adds van Gendt. "If you're thinking about sustainable supply chain management, bring in stakeholders from operations, IT and sustainability, so you're all co-owning the outcome that you're seeking." In particular, "make sure that the use cases you're focused on are

In the final analysis, AI is a valuable tool set worth embracing to manage the climate transition if humans have the final say, sums up Levin. "There is a deep need for human judgment when looking at any of the data or the conclusions that come out of AI. There's really no replacement for that. Whatever an AI tool spits out does need to be stress-tested with an experienced human leader." Given the scale of the challenge sustainability teams are grappling with, and the potential AI provides, she's also adamant that "it's a bigger risk not to use it. As someone said to me, AI is the new electricity." And without it, efforts on sustainability could go dark. [done]

I want to explain the key points of this article to a colleague. Summarize the top three.

 Think:Act

USE AI WHERE IMPACT IS TANGIBLE: Use of the technology proves most valuable when tied to clear, high-impact sustainability outcomes rather than abstract potential.

✔ CLOSE THE GAP BETWEEN PROMISE AND PRACTICE: While capabilities advance, most organizations remain early-stage due to data limits, risk concerns and governance challenges.

✔ **EMBRACE THE HUMAN ELEMENT:** Trust, accountability and real-world understanding require human oversight – AI should inform decisions, not make them unchecked.

+ Ask a question

BECOMING ARTIFICIAL

```

*#####%#*#####%##*###'0%#####*+++++

```

Picture 1

BECOMING ARTIFICIAL



MEND + the GAP

↳ WORDS BY
PAUL KIELSTRA

=%%+

@ @ *
== +
=== @ =====

== +

*** * ***** * * ***** ** ** **
*** * ***** * * ***** ** ** **

SNARING THE PROMISE
OF GENERATIVE AI
REQUIRES MORE THAN
EXECUTIVE BUY-IN
AND TECH INVESTMENT.
THE HARDER TASK
IS **to build an
organization THAT
IS SKILLED ENOUGH
TO EXPERIMENT,
EMPOWERED ENOUGH
TO ACT AND GUIDED
BY BOUNDARIES CLEAR
ENOUGH TO TRUST.**

+ AI ARTWORK BY
MARIUS JOPEN (THE ROBOTS)

SOMETIMES, CONFUSION BREEDS an interest in innovation. Julian Nolan, founder and CEO of Iprova, a Swiss company that uses data to support R&D and intellectual property teams, recalls how recently "one customer explained that they were talking to us, at least partly, because their board had told them to use more AI in research. The board might not know what AI is, but they do know if they use it, it could be good." This attitude, he adds, "sums up nicely" where a lot of companies are.

Indeed, using AI effectively is widely seen by executives as today's bright shiny object. With good reason: Researchers from the Wharton School estimated in a fall 2025 paper that generative AI's use alone will grow the economy by 1.5% over the next decade. But it won't make a difference at companies where befuddled corporate leaders simply tell management and employees to "make it so" and hope for the best. To share in the imminent prize, leaders have to understand the technology's possibilities and risks, assess what specific changes they may want to focus on when using it – and then determine which types of skills and tools need to be in place for widespread adoption. Developing the competency to deploy AI in every part of the business requires deliberate action combined with openness to organic change. To come out on the winning side of this upheaval, the C-suite must promote and create a corporate culture of experimentation that encourages, within clear guardrails, everyone across the organization to use AI.

YET THIS FUTURE IS STRUGGLING TO APPEAR at many firms. Just look at hotly contested research from the Massachusetts Institute of Technology's (MIT) Networked AI Agents in Decentralized Architecture project that assessed the success rate of GenAI experiments. It raised heckles and rebuttals when it reported in July 2025 that 95% of generative AI pilot projects fail – only the technology and media sectors seeing any signs of competitive disruption. Slow progress to date does not surprise Nolan. "New technologies," he says, "always have much longer gestation cycles than people expect." Yet this shouldn't reassure executives as delays in technology adoption are usually a collective calm before a huge storm.

Already visible changes point to a universal challenge. Bob Goodson – the founder and president of Quid, which uses AI to deliver customer

BECOMING ARTIFICIAL

Building composition...

Think:Act

How can I help you today?

Am I leading AI or just watching?

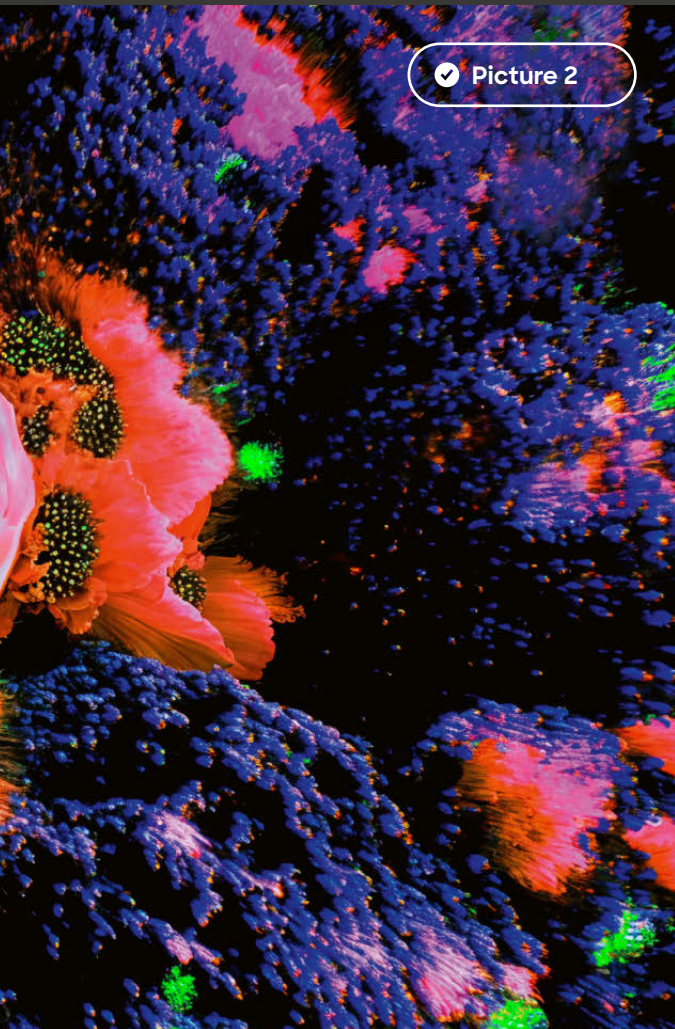
Think:Act

Before you strategize, you need to answer three questions your competitors are already asking:

- Which of your decisions are just expensive pattern-matching?
- Where does your edge depend on knowing something others don't?
- What breaks when prediction becomes free?

+ Ask a question





YOU NEED PEOPLE OPEN **↳ to putting experimentation right at the heart** OF YOUR BUSINESS AND A CULTURE THAT ENCOURAGES AND SUPPORTS ITS USE.

+ Melissa Cheals
CEO of Smartly

hires. "One possible model for the future will be to just throw junior people into high-level tasks that we would previously have thought of as too risky to trust them with," says Wu.

LOOKING DIRECTLY AT COMPANY-WIDE AI adoption, as with any large business transformation, success depends on somebody senior taking charge. Various options exist. Goodson calls the appointment of a single individual, answerable directly to the CEO, "one of the most successful things I've seen companies do." He frequently advises company executives about how to handle the human side of AI adoption and always cautions against this role being folded into a single department, given how each function is likely to use AI differently. At Smartly, Cheals says that combining oversight of AI adoption and data has worked because data is so integral to AI. The key is designating a leader with a clear AI focus. Such executives need their own particular competencies in shaping AI policies and promoting its use both for major AI projects as well as allowing all employees to adopt it into their everyday workflows.

The former begins with knowing how to align AI adoption with the company's best interests. As Goodson explains, the technology affects every part of the business. Because such a rich capacity opens up so many possibilities in a world of limited resources, executives need to focus when considering major programs. Goodson was already working on generative AI projects nearly a decade before ChatGPT first grabbed headlines. During that time, he says, he

BECOMING ARTIFICIAL

 Creating variations...

What are the advantages of designating a single individual in charge of AI?

 Think:Act

One owner means one point of accountability. Without it, AI devolves into competing fiefdoms, redundant pilots and no enterprise-wide learning. A CEO-facing AI lead sets priorities, kills weak projects, controls vendor relationships and forces the organization to place real bets instead of hedging everything.

+ Ask a question



learned a fundamental need for success: never be distracted by the technology. Instead, in planning projects, "it's very important to be ruthlessly outcomes-driven. Think business problem first, and then put together the right people, teams and processes to solve it." Otherwise, companies will spend a huge amount of money on technology, "and it doesn't end up doing anything for them."

The search for the outcomes of most interest obviously involves understanding where AI can yield the greatest business benefits. But it also means knowing the limits of what not to do. Iprova, for instance, helps companies with invention creation where valuable patents are a common client goal. But a valuable invention requires a significant element of human ingenuity. Therefore, an LLM that creates things from scratch would be much less valuable than one that simply helps. The technology, Nolan explains, has "to give the right level of assistance – the right information at the right time – in accordance with patent office guidelines."

More generally, Nolan adds "your AI invention strategy has to be consistent with your ability to act on the outcomes that it is likely to generate." A recent *Harvard Business Review* article, which he co-wrote, explains that the sweet spots are those areas where companies have some control over a product's wider value chain and over the technology used to produce and deliver it. There, AI-driven changes and insights can rapidly be scaled up. In other areas, even good ideas might fall flat.

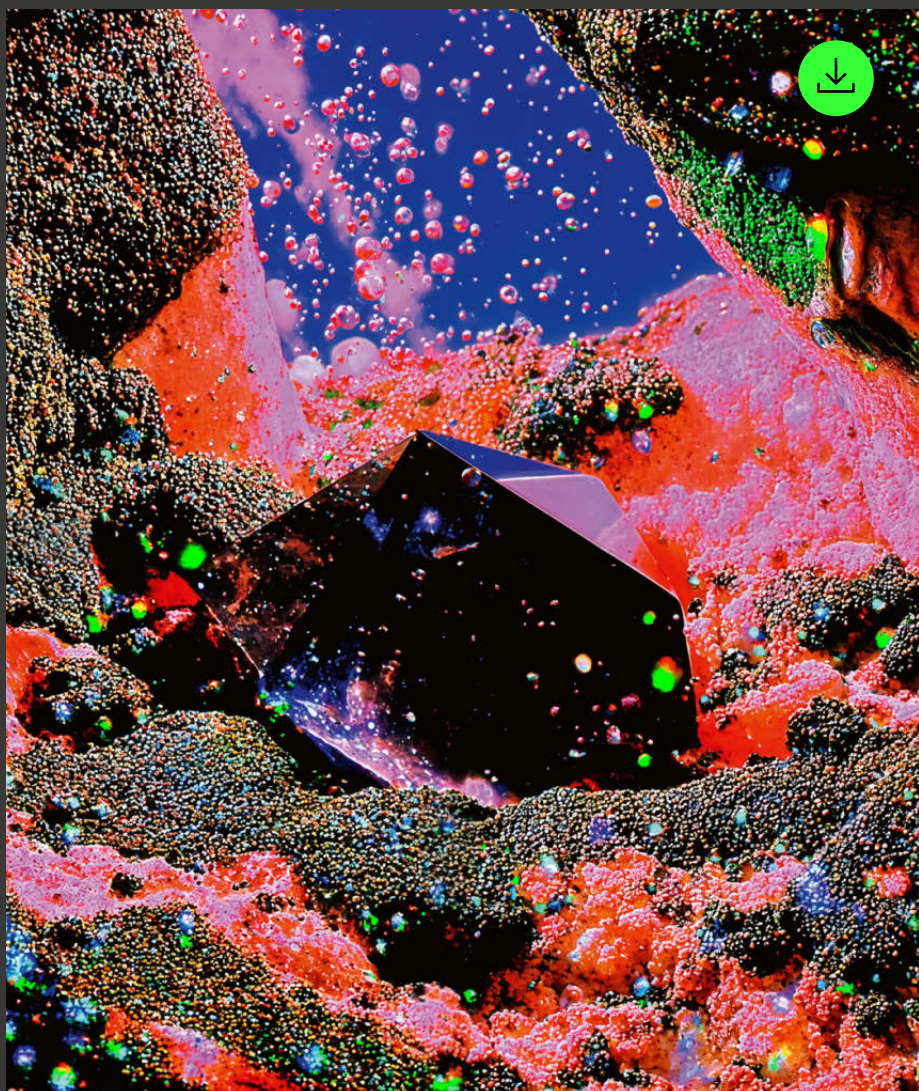
Setting up rules around AI use is another crucial area where leadership must develop competency fast. Ultimately, the inherent dangers of misusing the technology make this a board responsibility. They absolutely must get this right, Cheals explains. "Without proper governance, AI does pose a risk – particularly when it comes to security and data privacy. This is why it is crucial to ensure the right policies and frameworks are in place." To do this well means wrestling with some important questions.

NO SHORTCUTS EXIST TO BUILD AI COMPETENCY across an entire workforce. Simply using the technology to replace humans doesn't work, as a recent survey by organizational planning platform Orgvue highlights. While 39% of respondents reported cutting jobs in light of AI adoption, 55% of this group now regret the step. Cheals explains why such remorse is no surprise: "AI is not about replacing people, it is about augmenting and enhancing capability. It's not a machine doing something on its own, it is a tool that

IT'S VERY IMPORTANT TO BE ↵ ruthlessly outcomes-driven. THINK BUSINESS PROBLEM FIRST, AND THEN PUT TOGETHER THE RIGHT PEOPLE AND PROCESSES TO SOLVE IT.

+ Bob Goodson

Founder and president of Quid



still needs to be operated, trained and managed by a person." Organizations therefore need a focused effort that ensures their people are excited about what technology can do. Once on board, employees will need general training such as learning prompting skills and how to integrate company data into answers from LLMs. Beyond such basics, competency will ultimately come from the experience of playing with and using new tools in their own jobs.

Inculcating AI skills across the whole workforce requires significant shifts in corporate culture. To begin with, encouraging messages from the top can't be empty words. As Goodson puts it, CEOs "need to be exemplary in their own use." If leaders play the role model in chief by using the technology and show their teams what they've accomplished, it sends a powerful message. The hardest part here, Wu warns, will not be for board members and CEOs to learn how to use generative AI, which he calls "perhaps the easiest technology to get started using of all time." Instead, they need to unlearn old habits of how to interact with technology.

Next, Nolan stresses, people need to want to adopt AI because it makes them feel empowered in their own roles. "They mustn't feel threatened," he explains. "It has to create value for them personally, ideally quite quickly." Emotional benefits are integral to successful adoption, he adds. If implemented well, AI's ability to make employees "feel like they've got superpowers, and to make their lives more fun and enjoyable, is an incredibly important aspect of getting the human element right." Before they get too heroic, though, employees also need to gain an understanding of when such experimentation is safe and appropriate. While guardrails are needed, employees need freedom to experiment and learn, which requires managers to be understanding when some efforts inevitably fail, says Wu.

EXPERIMENTAL LEARNING SHOULDN'T BE a solo pursuit either. At Smartly, generative AI training is mostly an interactive group activity by design. "If you're all together – and this can be anybody and everybody in the company – then you're able to share and see what other people have done," explains Cheals. In such an environment, she says, the possibilities become real for every employee in their daily jobs. Wu adds that this kind of interaction lets companies tap into the knowledge of those employees who are already fully competent in GenAI use and spread it more broadly. Often, he says, these are the youngest employees, especially those who were still in college

3 STEPS TO MAKE THE MOST OF AI

1

Allow AI use
in some areas in the
hands of software
engineers only.

2

Restrict it for other
uses to certain
trained individuals.

3

Open up the rest
to everyone and
update employees
regularly. Increased
understanding
and experience
will inevitably lead
to revisions within
each category.

or university when ChatGPT was released. They tend to be "absolute ninjas at using ChatGPT and generative AI tools," says Wu. "A lot of this knowledge is trapped at the bottom. It needs to be shared upward through the organization."

When done correctly, collective experimentation can even blur the line between training and helping the company. Cheals recalls "a couple of fantastic online brainstorming sessions" which led to a list of 40 potentially transformational product developments. She describes the next stage as "crazy sessions" because they let participants work with generative AI to gain experience in unfamiliar territory. Participants used AI to prototype new tools, which allowed them to rapidly turn some of the top identified ideas into functional products. One such tool, now live, allows Smartly clients to automatically generate organizational HR charts, which are based on how relationships currently work within their company. Another upcoming tool will allow customers to provide new hires with automated, self-serve onboarding.

Organizations embarking on this journey will be walking a fine line. Encouraging everyone to put GenAI to use while the understanding of what the technology can do is still evolving may make it hard to look at KPIs and other metrics to determine if the organization is on the right track. But if executives and employees are clearly excited about venturing outside their comfort zone with AI by their side, then the metrics will follow the momentum. **[done]**

What are the three most important points I should keep in mind when looking to build AI competency at my organization?

Think:Act

USE AI WITH PURPOSE, NOT PRESSURE:

Organizations see AI as strategic, but real value comes from solving business problems – not adopting it because leadership expects it.

BUILD CULTURE BEFORE SCALE: Most AI initiatives struggle because organizations lack the infrastructure, governance and culture needed for effective adoption.

CREATE SPACE FOR EXPERIMENTATION:

Companies benefit most when employees can test and learn from AI within clear frameworks balancing innovation, security and privacy.

+ Ask a question





Think:Act

Ask any question

Are companies experimenting their way into irrelevance?

Think:Act

Most executives are playing with AI like it's a new toy: running pilot after pilot, chasing demos and calling it strategy. The real question isn't which tool to adopt next, but what kind of company you want to be in 10 years, and whether AI is being built into that vision deliberately or accidentally.

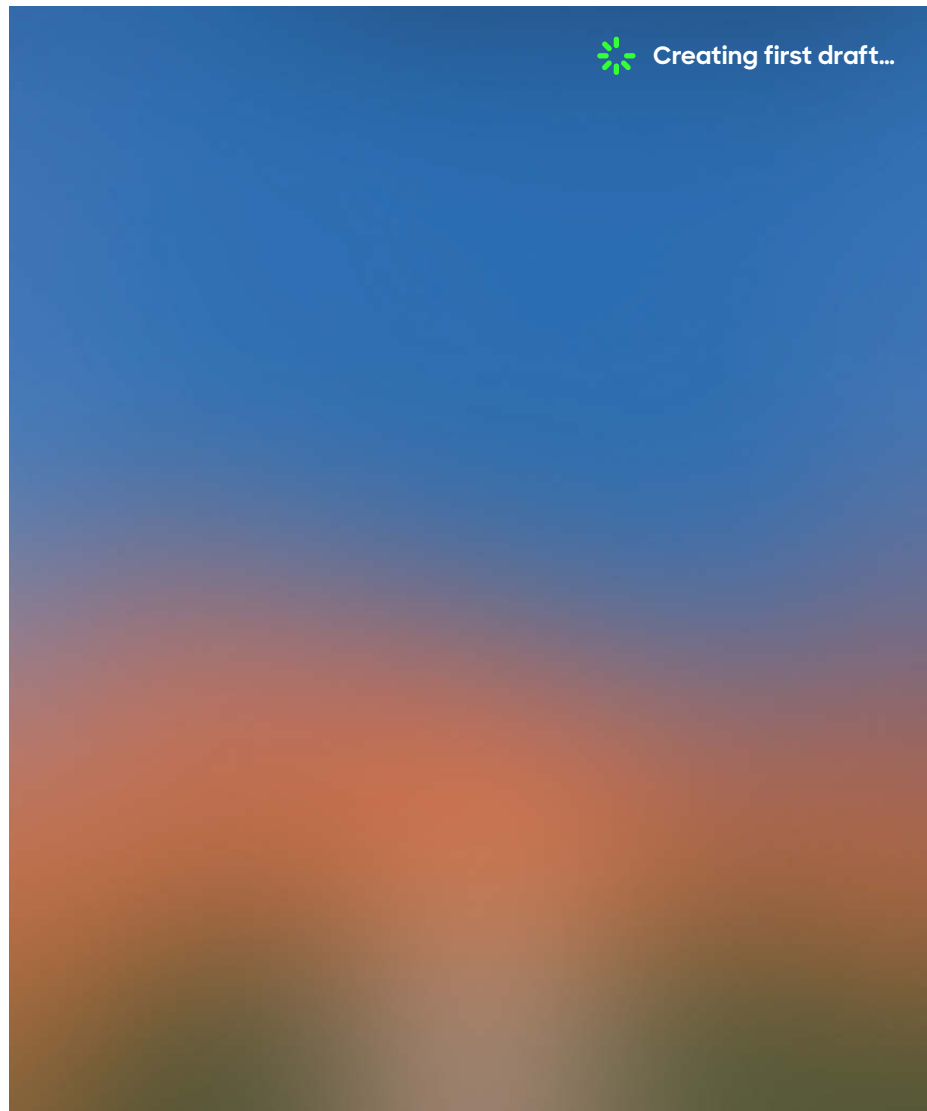
+ Ask a question



*****#%@@@@*+

=





%####

BECOMING ARTIFICIAL

+ WORDS BY
STEFAN STERN

AI ARTWORKS BY
ENTRE DEUX

WHEN AI ACCELERATES CYCLES,
HOW DO YOU DESIGN A STRATEGY
THAT ↪ holds its shape over
decades RATHER THAN BENDING
TO EVERY NEW TOOL? NEW
TECHNOLOGY, WISELY DEPLOYED
AND FREQUENTLY QUESTIONED,
CAN HELP CEOS THINK BIGGER.

###*+
%%#

THERE CAN BE LITTLE DOUBT that artificial intelligence is now firmly entrenched in the business world, education and our private lives. Exhibit one: the 2026 Super Bowl. One thing the sporting event traditionally reveals, both culturally and commercially, is what American consumers and businesses are thinking about. Almost one-quarter of advertising – 15 out of 66 slots – were for AI companies or made by AI tools, with each spot costing an average of \$8 million. This sort of investment raised some red flags among observers who recalled that previous technology hype cycles around cryptocurrencies and e-commerce placed equally aggressive marketing bets only to be cut down to size.

But this time might indeed be different. As the industry's premier and sober annual assessment, the 2026 Stanford AI Index Report, found: "AI capability is not plateauing. It is accelerating and reaching more people than ever." The panel of illustrious experts points to the fact that close to 90% of organizations have adopted AI tools, 80% of university students now use generative AI and consumers are "deriving substantial value from tools they often access for free." At the same time, it notes a disconnect between AI experts and the public, defined by "very different perspectives on the technology's future" and an erosion in trust to manage AI.

THIS SPLIT SCREEN BEGS a fundamental question: While the business of AI is apparently booming, what's a leader to do? How should you invest and commit to the new tech? And how can you judge and balance the human input that will be required to make your business a success? We will explore the important "human question" in the second part of this feature, in volume two of *Think:Act's* AI special edition. For starters, let's consider how to set your organization up for playing the long game in this fast-changing AI landscape.

At least two apparently contradictory things appear to be true about AI. First, the technology is real, increasingly impressive and is being invested in at an extraordinary rate. By the end of 2026, around \$700 billion of capital expenditure is scheduled to have taken place from just four major tech companies. The numbers seem to be real, although the borrowing required by the "hyperscalers" – firms such as Microsoft, Alphabet (Google), Meta (Facebook), Oracle and Amazon – to fund their investment will place these businesses among the



 Refining details...

How can I separate the wheat from the chaff with AI tools and pilots?

 Think:Act

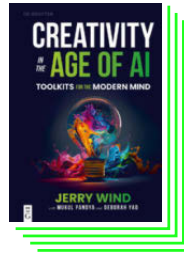
Look for tools that change how decisions get made, not just how fast. Discard anything that automates busywork without touching your core value proposition or competitive advantage.

+ Ask a question





Picture 2



Creativity in the Age of AI

by Jerry Wind with Mukul Pandya and Deborah Yao, 200 pages. De Gruyter, 2025.

10 largest borrowers in the US investment-grade corporate bond market by the end of 2030. That is a lot of debt, which lenders may or may not find attractive. What's more, these firms are under constant political pressure to limit the impact of their huge data centers on electricity and water supplies.

Here is the second, contradictory truth: As in Web 1.0, it does not seem likely that all the major AI players can genuinely generate the sort of revenues that could justify this level of debt financing. The scale of investment makes the market jumpy, and more than once this year an extended essay or research paper from a seemingly informed source has caused the stock market to react (or overreact) powerfully. Whole industries – software as a service, for example – are suddenly declared to be doomed, producing a sharp sell-off of shares before the market calms down again and thinks a bit harder. A big AI name going down would only make the frenetic selling start up again.

IN THESE CONFUSING AND VOLATILE circumstances, what does a wise corporate leadership team do? As when working with a large language model, it is important to ask the right questions. Short-term panic or overreaction will not help. Taking a longer-term view and thinking about the likely longer-term implications of AI on work, corporate culture and decision-making looks like a better idea.

Jerry Wind, a professor of marketing at the Wharton School, draws on six decades of experience studying business and the arrival of disruptive new technologies. He has seen what has happened in previous "hype cycles." His response this time around, when it comes to how to use AI and for what tasks, is pragmatic and positive. "You basically cannot ignore AI," says Wind, whose latest book is called *Creativity in the Age of AI*. "Hallucination is real, but you can control for hallucination, and you can check for it. Use multiple approaches: don't use only one system, use multiple systems. Don't only use one line of probing, use multiple ways of probing," he says. Wind has no doubts that business leaders have to engage seriously with AI. "It's truly a game changer. It's the next level of innovation that requires us to rethink almost everything we do."

With that in mind, let's get to grips with what this disruptive tech could mean for business models, how we run organizations and what partnerships need to be fostered between the workforce and the new tools. Ravikiran Kalluri, assistant professor in project management at Northeastern University's

HALLUCINATION IS REAL, BUT YOU CAN CONTROL FOR IT.

Use multiple approaches: DON'T USE ONE SYSTEM. DON'T ONLY USE ONE LINE OF PROBING.

+ Jerry Wind

Wharton School professor of marketing

College of Professional Studies in Boston, has a clear view of what's at stake for the C-suite. Namely, how to deploy AI and integrate it with specific skill sets. "Anything that you need to calculate, you can give it to AI. You can also do analysis with AI that is not leading to any action, but is just a recommendation," he says. "Any kind of insight assessments can be used to save time spent in number crunching, which the human leader has to look at and apply his context, tenure and bearing on, and then decide what to do with it, completely ignore it or make decisions."

THAT HUMAN ELEMENT OF JUDGMENT is vital, Kalluri adds. "There is something else that the human will bring to the table, and that is the context gained from years of experience, not just from basic human thinking patterns." Author and leadership expert Eve Poole agrees that the arrival of powerful agentic AI should force business leaders to ask profound questions about how they operate. She published her book *Robot Souls: Programming in Humanity* in 2023, but it has stood the test of time even as AI has made its spectacular advances. The fact that she has an MBA and a PhD in theology may have equipped her to take a longer-term view. "Try and use this as an opportunity to revisit the business model," she says. "Where is it that you actually need humans? It's almost a business reengineering project: trying to go back to basics rather than be wowed by what people are selling you, looking at it from your own point of view first, and trying to think about what's valuable about your proposition."

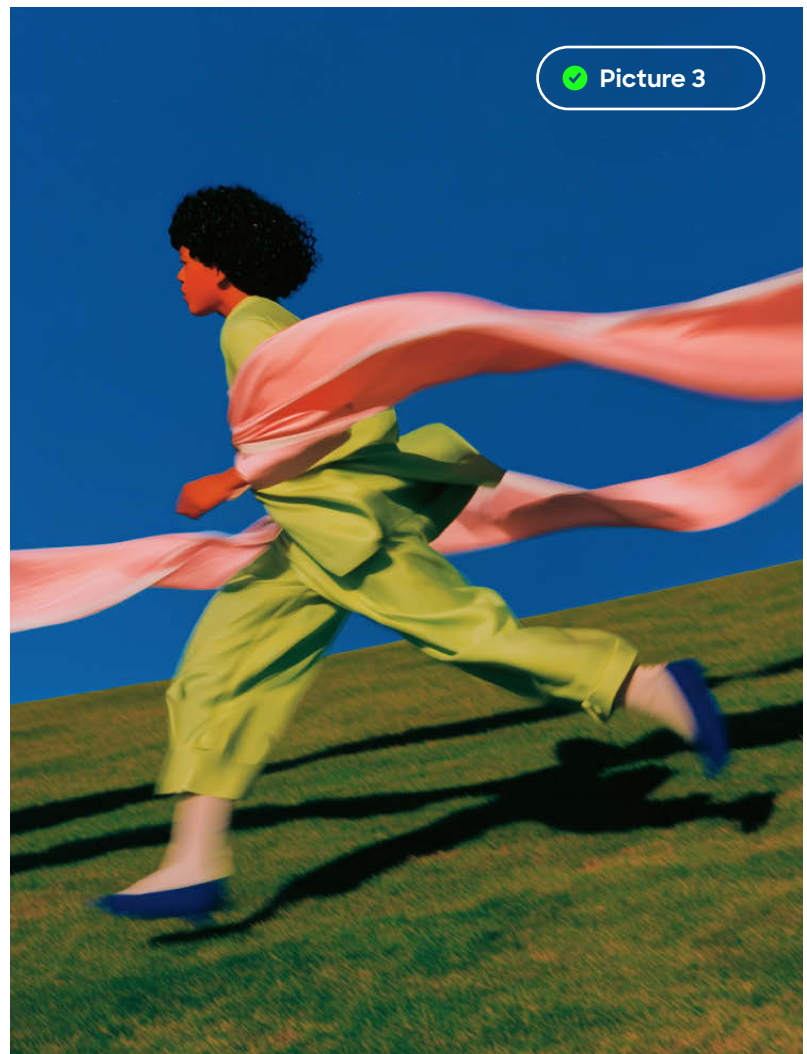
This is not just a case of dropping a new ERP or CRM system into the business, however, and Poole warns against looking at AI as simply a tech issue. It is time to study the value chain end-to-end, perhaps reinvent the business model, and then ask that scary question about whether you'll still be in business in 10 or 20 years' time. "Maybe some chief executives, when they sit down and look at it, will think: 'Well, we won't be here in 10 years. So, what do we want to use those 10 years to do?'" she adds. "And it may be about exiting, or about transformation. AI is such a major deal that any CEO who is not on this is completely in dereliction of their management duty."

Another expert commentator on this issue is Azeem Azhar, entrepreneur and author of *The Exponential Age: How Accelerating Technology is Transforming Business, Politics and Society* as well as a widely read Substack newsletter. He shares Poole's view on the urgency of the situation. "I think the CEO needs to have really deep compe-

MAYBE SOME CHIEF EXECUTIVES WILL THINK, ↵ 'Well, we won't be here in 10 years. SO, WHAT DO WE WANT TO USE THOSE 10 YEARS TO DO?'

+ Eve Poole

Leadership expert and author of *Robot Souls: Programming in Humanity*



Graphic processing units – or GPUs – sit at the heart of AI. It is the product that has made Nvidia the most valuable company in the world. And Azhar says this vital component raises another AI challenge for leaders. The question is: What would you do with a million GPUs? "Most companies need to have an answer," he says. Other questions arise now that AI is here and is a powerful reality, Azhar adds. What are the things that you don't do enough of

BECOMING ARTIFICIAL

A young boy with curly hair, wearing an orange jumpsuit and a long orange cape, is running across a green grassy hill under a clear blue sky. He is wearing white socks and blue shoes. The image is part of a presentation slide titled 'Picture 4'.



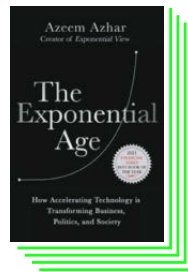
#####%##*#####%####**###%#####*###%####*#####%%####**#####%##*####%#####*++++++



because they're hard and expensive to do, that will now become cheap? And how does that change your business? "There's a whole class of decisions that could be ultimately compressed," he says. "I think of this as 'strategy as execution.' It is about putting AI in the places that actually matter to your business," Azhar argues. "The CEO needs to have done something that knocks their own socks off to be able to imagine what's possible. What happens when the gap between a customer need being identified and you being able to serve it collapses by an order of magnitude? You know that this changes the nature of your business."

BIG DECISIONS WILL HAVE BIG CONSEQUENCES – which is perhaps why some business leaders will still hesitate to act. Jerry Wind concedes that there could be significant job losses. "In some customer service areas, AI can replace up to 70% of the people," he says. But with a sophisticated agentic system, you can achieve higher net promoter scores than humans used to get. "We are more satisfied interacting with an agent. And it makes sense, because the agent has all the information. They don't have to transfer you from one person to another. They have the data so they can give you the information you need in a more effective and organized way. It's no wonder that people are very happy interacting with those agents. There will be some job loss, but at the same time, there are tons of new jobs that are going to be created."

Kalluri sounds a final warning. "I consider AI as just a tool," he says. "Any decision sent to the AI has major consequences. You can save some time, but I don't expect AI to be able to do a good job of designing the next Mercedes model, for example, because that requires context experience and emotional thinking." AI's replacement effects will have real-



The Exponential Age by Azeem Azhar, 352 pages. Diversion Books, 2021.

world consequences that might not be immediately obvious, he explains, but need to be addressed. "Until now, we were looking at the blue-collar manufacturing workforce, but now we are challenging the educated class as well. If all these people are out of jobs, they don't have the money to buy anything," says Kalluri. "What are these companies making? Who has the buying power to even purchase these products that they are using AI to make? It will come back full circle, and the question has to be answered."

No one working means no one buying, with potentially devastating consequences for companies built around selling goods and services to humans who earn an income. Would such a fundamental shift in the economic order usher in a vicious downward spiral, what some academics have described as the "AI Layoff Trap" – or would it help bring forth entirely new business models with new roles and responsibilities for humans that we have not even considered?

Striking the right balance for the long term and finding a new equilibrium could create a more optimistic outcome. Yet getting there relies on sustained human input and a continuous interaction between man and machine, setting boundaries and capitalizing on uniquely human traits and skills. What such a novel discourse could look like and what fresh concerns it raises will be the focus of the second part of this feature. Pick up the argument in part two of *Playing the long game* in the next edition of *Think:Act's* AI double issue. [done]

That's a long read.
Can you highlight the three most important points?



LOOK TO AI WITH STRATEGIC INTENT: Leaders should focus on deploying AI where it can reshape core business processes and create real competitive value.

WEIGH AMBITION WITH REALISM: Despite widespread adoption, uncertainty around ROI, market sustainability and hype cycles requires long-term planning.

PREPARE FOR WORKFORCE SHIFTS: Jobs may be lost while new ones are created, raising questions about purchasing power and the long-term stability of AI-driven economies.

+ Ask a question



CLOSING THOUGHTS ON
BECOMING ARTIFICIAL

**"PRESENT-DAY
ELECTRONIC BRAINS
ARE COMPLETE
MORONS. BUT THIS
WILL NOT BE TRUE IN
ANOTHER GENERATION.
↳ They will start to
think, AND EVENTUALLY
THEY WILL
COMPLETELY OUTTHINK
THEIR MAKERS. WE
SHOULD REGARD
IT A PRIVILEGE TO
BE STEPPING STONES
TO HIGHER THINGS."**

+ ARTHUR C. CLARKE [1964]
SCIENCE FICTION WRITER, NOTED FUTURIST AND POPULARIZER OF TECHNOLOGY

Wide angle

Read on for diverse insights into the wider world of business and ideas.



Feeling the heat

Extreme heat is no longer a regional inconvenience but a global threat to workers and the systems that depend on them. Businesses that fail to intervene risk lives, productivity and long-term legal liability.

BY **Geoff Poulton** PHOTOS BY **Paul Ratje**



BY COVER OF NIGHT
The arid climate of the Northern Chihuahuan Desert in New Mexico may be suitable for crops such as onions and chilies, but less so for farm workers, who harvest through the night to avoid the sun's heat.

WILLIAM MARTINEZ was 12 years old when he joined the sugar-cane cutters in Chichigalpa, Nicaragua. In his community, men routinely worked 12-hour days under the relentless sun, with little water, no shade and no rest. What began as a way to support his family soon became a fight for survival. Friends, cousins and colleagues began falling ill. Many died from a mysterious chronic kidney disease that swept through the workforce. "We cut cane, we get sick and we die," was a phrase that came to define an entire generation, Martinez says.

His father was among the victims, dying at 43. Before he passed away, he left his son with a short but life-altering message: "Study, so you don't end up like me." Martinez listened. He earned a degree in industrial engineering with a focus on occupational health. Now he seeks to protect workers around the world from the dangers of working in high temperatures. "What I saw in my community is not unique," Martinez says. "Extreme heat does not distinguish between country, language or industry."

That reality is becoming harder for businesses to ignore. In 2024, the world recorded its hottest year on record, with 2025 close behind. The past 11 years, from 2015 to 2025, will each rank among the warmest in the 176-year observational record, with the past three years being the hottest ever measured. Once treated as a seasonal inconvenience or a regional issue, heat has become a fundamental risk to the global economy.

AT LEAST 2.4 BILLION WORKERS are now exposed to excessive heat globally, resulting in more than 22.8 million occupational injuries and nearly 19,000 deaths each year, according to a 2024 report by the International Labour Organization (ILO). The health risks are wide-ranging: heatstroke, dehydration, kidney failure, cardiovascular strain and neurological disorders. These conditions undermine long-term health, household income and economic security. Mental health impacts such as stress, exhaustion and anxiety are frequently overlooked. To compound the issues, heat is a "silent killer," explains Radhika Khosla, professor at the University of Oxford's Smith School of Enterprise and the Environment and an expert in heat and cooling. "Its chronic effects and impact on productivity are often attributed to other causes, allowing employers to underestimate the scale of the threat."

JUST BEFORE DAWN
With onion harvests typically taking place between late May and August, workers in the region surrounding Salem, New Mexico, can expect daytime highs of up to 35 C. The overnight lows of 16 C offer far more comfortable conditions.

"Heat's chronic effects and impact on productivity are often attributed to other causes, allowing employers to underestimate the scale of the threat."

**– Radhika Khosla,
Professor at the University of Oxford**





**Excessive
heat is
taking a toll**

**\$361
billion**

How much could be saved globally if occupational safety and health measures were implemented to prevent heat-related injuries.

**2.41
billion**

The number of workers worldwide who are exposed to excessive heat, equivalent to 70% of the working population.

**19
thousand**

The number of worker deaths annually that are attributed to excessive heat conditions.

SOURCE:
INTERNATIONAL LABOUR
ORGANIZATION

Around the world, workplace heat exposure is attracting growing attention, from 55 C warehouses and boiling building sites to non-air-conditioned delivery vehicles, where the mercury can touch 50 C. Not only is this extremely dangerous for workers, it also represents a reputational risk for businesses. In addition, the burden of heat exposure falls disproportionately on the world's most vulnerable workers. Agriculture, construction, utilities, logistics and manufacturing – sectors that underpin global supply chains – rely heavily on labor in hot and often poorly regulated environments. A new joint report from the Food and Agriculture Organization and World Meteorological Organization says agricultural workers are 35 times more likely to die from occupational heat exposure than all workers combined in other sectors.

Andreas Flouris, professor of physiology at the University of Thessaly, Greece, and co-author of the 2024 ILO report, argues that this imbalance is "not

just a moral failure, but a profound economic and social challenge that threatens global stability." Workers in low-income regions and those laboring outdoors or in poorly cooled indoor settings bear the heaviest burden, while being least equipped to adapt. The result is a widening divide between workers protected by climate-controlled environments and regulation and essential laborers who must work through life-threatening heat. "If we allow this gap to widen, we risk catastrophic consequences," Flouris states: "mass health crises, soaring health care costs, reduced long-term productivity and ultimately, a breakdown in the very supply chains and social contracts built on the labor of the unprotected."

There remains a widespread assumption that extreme heat is primarily a problem for traditionally hot regions of the world. That assumption is dangerously misplaced, says Radhika Khosla. "In fact, the lack of familiarity with extreme heat in regions like Northern Europe means businesses, homes, cities and supply chains are not built to withstand it. And that's going to make the impacts of increasing heat waves all the more dangerous for countries that are used to cooler temperatures."

Khosla cites research she and her Oxford University colleagues conducted in 2023, which showed countries including Norway, the UK and Switzerland are "dangerously underprepared" for rising temperatures. According to the ILO, Europe and Central Asia experienced a 17.3% increase in excessive heat exposure between 2000 and 2020 – almost double the global average.

THE ECONOMIC CONSEQUENCES OF RISING HEAT extend well beyond worker health. Higher temperatures strain water supplies, threaten power infrastructure and disrupt logistics and production. Financial services firm Moody's estimates that heat waves already cost the global economy roughly 1% of GDP each year. At the organizational level, the losses are immediate and measurable. Flouris' research shows that productivity drops by around 2.2% for every degree Celsius above 18 C. Across large workforces and complex operations, those losses compound rapidly. The ILO estimates that implementing occupational safety and health measures to prevent heat-related injuries could save more than \$361 billion globally.

Despite this, action has been slow. Flouris argues that businesses must reframe the issue, shifting from asking what it costs to protect →

workers to understanding what it costs not to. The most effective interventions are often simple: structured work-rest cycles, access to shade and clean drinking water, acclimatization programs and adjusting work schedules to cooler hours of the day. These measures do more than protect health; they directly improve output, reduce errors and stabilize operations. "In this sense, heat protection is not an expense but an optimization of human capital," Flouris says.

Jason Glaser knows just how effective these interventions can be. He is the CEO of La Isla Network, an organization dedicated to ending heat-related illnesses among workers worldwide, as well as a colleague of William Martinez. Glaser says a multiyear program by La Isla Network at a Nicaraguan sugar mill that improved rest, shade and hydration led to a series of impressive results, including: a 94% reduction in cases of acute kidney injury linked to excessive heat, eliminated fatal heatstroke cases, increased productivity by 10% to 20% and generated a positive return on investment of 22% through lower absenteeism, reduced accidents and decreased staff turnover.

Glaser hopes evidence such as this will lead to increased action among policymakers and businesses. "Organizational buy-in remains a major obstacle," he says. "Without alignment from senior leadership down to front-line supervisors, even well-designed interventions can fail."

ON A MACRO LEVEL, improving heat resilience also requires a broader rethink of how buildings and cities are designed. "The trend for tall office buildings made of glass, which act as greenhouses trapping in heat and requiring huge amounts of air conditioning, is particularly unsustainable," says Khosla. Becci Taylor, director at global engineering and design firm Arup and a specialist in decarbonization and sustainable building design, argues that the priority must be reducing heat gain in the first place. "Measures include external shading like awnings and shutters, reflective surfaces, better ventilation, green roofs and light-colored façades. Retrofit policy needs to integrate climate adaptation and energy efficiency instead of running on separate tracks," she says, "while heat resilience should be integrated with low-carbon and nature-based solutions as part of wider climate adaptation."

Roofs are a great example, Taylor says. "They typically transmit heat into buildings in summer and lose heat in winter, but this can be reduced by

80%

The percentage of all occupational injuries linked to excessive heat that occur outside of a heat wave.

SOURCE:
INTERNATIONAL LABOUR
ORGANIZATION

making them reflective and better insulated. Green roofs support biodiversity and cool in summer, blue roofs manage stormwater and photovoltaic roofs generate power while reducing heat transmission." In New York City, Arup coated more than 500,000 square meters of rooftops with reflective materials, lowering indoor temperatures by up to 30% during heat waves.

Khosla shares this view, emphasizing the importance of passive cooling techniques such as natural ventilation, shade, vegetation and ceiling fans – approaches that have been used for centuries in hotter climates. Where air conditioning is unavoidable, she argues, businesses should invest in the most efficient systems available and ensure they are powered by increasingly decarbonized energy grids. "Otherwise, companies risk locking themselves into a vicious cycle in which fossil fuels are burned to keep buildings cool, emissions rise and heat stress intensifies further."

PAUL RATUE/NT/LAIF

THE FIRST LIGHT OF DAY
After working all night to fill up crates with onions for \$17 each, dawn signals the final working hours for many New Mexico farm workers, who will resume work when temperatures fall.



"Heat stress leads to lost working hours, catastrophic injuries, high employee turnover and long-term legal liability. Ignoring this is simply bad business."

– Andreas Flouris,
Professor at the University of Thessaly

Heat resilience increasingly shapes decisions far beyond the workplace, too. Local governments in Los Angeles, Melbourne, Miami, Athens and Freetown have appointed chief heat officers to mitigate the effects of rising temperatures on inhabitants, businesses and critical infrastructure. Heat waves can trigger rolling blackouts and water shortages, which in turn can disrupt operations across entire regions. Data centers, which underpin the digital economy, are particularly vulnerable. In 2022, summer heat waves in the UK and United States forced facilities offline, disrupting cloud-based services and the businesses that rely on them. One recent report states rising global temperatures pose an increasing risk to the resilience of well over half of the world's top 100 data center hubs.

For many organizations, though, it's the effects of rising heat risk on their most valuable asset that remain the core focus. "Protecting your workers from heat is a mandatory pillar of a sustainable, profitable and resilient business model," says Andreas Flouris. "The climate crisis has turned the thermal environment into a direct, measurable input of production. Heat stress leads to lost working hours, catastrophic injuries, high employee turnover and long-term legal liability. Ignoring this is simply bad business." ■

Five ways businesses can reduce worker heat stress



Rethink scheduling

Shift physically demanding tasks to cooler hours, build in mandatory work-rest cycles and slow output expectations during periods of extreme heat. Productivity losses due to heat will run far higher than the cost of flexible scheduling.



Cool people first, buildings second

Prioritize shade, airflow, hydration and recovery zones close to where work happens. Simple interventions such as shaded rest areas, cool drinking water, fans, misting or cooling vests can reduce heat strain faster than relying solely on air conditioning.



Use data to prevent, not react

Closely track heat risk using real-time weather data, the wet-bulb globe temperature and, where appropriate, wearable sensors. Trigger automatic safety responses like extra breaks, task changes or stop-work thresholds before workers show symptoms.



Design out heat wherever possible

Reduce heat gain through passive design: external shading, reflective roofs and façades, natural ventilation, green roofs and lighter materials. Buildings that trap heat increase risk, energy costs and downtime during heat waves.



Make heat safety a leadership issue

Heat protection fails without buy-in from the top. Clear policies, supervisor training and accountability at board and management level turn heat safety from a seasonal concern into a core operational standard.





Weathering change

In an era of extreme weather, adaptation is quickly becoming a competitive edge. Corporate investment in new strategies, risk assessment and predictive planning could determine which companies thrive – and which are left behind.

BY **Grace Browne**



TRAIL OF DESTRUCTION
Powerful storms like Typhoon Mangkhut, which struck Hong Kong on September 17, 2018, and required extensive and costly cleanup operations, are only increasing in number.

THROUGHOUT THE 2011 monsoon season, Thailand was decimated by severe flooding. The event quickly became one of Thailand's worst humanitarian disasters in history: Millions of people were impacted, with over 800 people dead. Not only were the floods devastating for the lives of the people in the affected areas, but the economic fallout was also paralyzing. The floods of 2011 submerged vast swathes of the country, including major industrial estates with factories for global electronics and automotive manufacturers. The disaster caused over \$45 billion in economic losses and created massive disruptions to supply chains across the world. And since, the issue of megaflooding has only worsened in the country. The World Bank estimates that Thailand could lose between 7% and 14% of its GDP by the middle of the century, should it fail to make the necessary adaptations.

Dealing with extreme weather events is of course not a wholly new phenomenon. The novel part is their increasing frequency, severity and unpredictability. And areas that have never had to factor adverse weather into their contingency plans are having to adapt, quickly. A manufacturing plant built to last for decades might face flood conditions that historically occurred once per century, now arriving every decade. A distribution center designed for moderate temperatures might need to operate through heat waves that render conventional cooling systems inadequate. The challenge that climate change poses to corporations can take a more chronic form, too. One of the most pressing issues is that of heat. Heat stress has rapidly become the topic du jour for employment rights. Workers become less productive, and incidences of accidents increase in frequency. During searing European summers, some businesses simply have to shutter because the risk to their workers is too high.

BUSINESSES HAVE AN UNAVOIDABLE DECISION to make: adapt or relocate. And many have chosen the former. In the industrial parks surrounding Bangkok, entire manufacturing complexes sit atop massive concrete foundations designed to remain operational even as floodwaters swirl below. Access roads slope upward to these elevated zones, creating islands of productivity in potentially flooded landscapes. Companies like Western Digital and Seagate have invested hundreds of millions in raising their facilities and installing sophisticated flood defense systems. Warehouses feature raised

loading docks, waterproof barriers that can be deployed within hours, and backup power systems positioned above potential flood lines.

This elevation strategy has also spread beyond Thailand. In Vietnam's Mekong Delta, where rising seas threaten vital agricultural processing facilities, new warehouses and cold storage units are being built on stilts or raised platforms. In Houston, after Hurricane Harvey dumped record rainfall in 2017, chemical plants and refineries have invested in elevating critical equipment and control rooms, recognizing that Gulf Coast flooding will only intensify.

While much attention has focused on reducing emissions and adapting to higher temperatures, there's another critical dimension: building physical resilience into the infrastructure that keeps the global economy running. A 2024 report by the World Economic Forum laid out the scope of the problem. It estimated that hazards such as extreme heat and flooding threaten corporate fixed assets – with the

CAUGHT OFF GUARD
Europe experienced its worst wildfire season on record in 2025 with fire activity across Portugal, Spain, France, Ukraine, Romania, Ireland and the Balkan Region (pictured below).



PHOTO: DAMIR MISURA / AFP / GETTY IMAGES

"Very large companies are incorporating climate risk scores into their assessment of what assets are at risk today and how that's going to change in the future."

— Miyuki Hino,
Assistant professor at the University
of North Carolina at Chapel Hill



potential for earnings losses of between 6.6% and 7.3% every year by 2035. A financial incentive to adapt is tough for business to dismiss. According to data from the Carbon Disclosure Project, every dollar invested in climate adaptation and resilience can generate up to \$19 in avoided losses.

In response to the creeping issue, companies are increasingly employing climate risk models – developed by scientists and analysts – to predict future disasters like hurricanes and wildfires, helping business leaders understand which of their locations are most at risk. These predictions allow companies to make better decisions about where to invest, how to protect their operations and how to prepare for climate change over the coming decades.

However, what companies have the resources to develop this kind of preparation may create a disparity, which will only widen in years to come. "The very large companies are definitely incorporating climate risk scores and climate risk information into their assessment of what assets are at risk today and how that's going to change in the future," says Miyuki Hino, assistant professor at the University of North Carolina at Chapel Hill, who works on climate risk, adaptation and how firms and communities respond to disasters. For smaller companies – particularly ones that are locationally constrained, say, that need to be close to the water – those options will be much, much tighter, she says. It may be the case that only the big players will be able to foot the cost of building climate adaptation into their infrastructure, with smaller and less cash-rich companies left without the necessary preparation. This disparity could reshape competitive landscapes, with climate resilience becoming a source of market advantage rather than just survival.

OTHERS ARE LESS PESSIMISTIC. Big dog multinational corporations may not always have the upper hand, according to Jesse Keenan, associate professor of sustainable real estate and urban planning at Tulane University and the author of *North: The Future of Post-Climate America*. Very large corporations with global supply chains historically have struggled when there's been a region-specific disruption. "Usually smaller companies tend to do better, actually – specifically in low- and middle-income countries."

This climate risk modeling data is becoming more and more publicly accessible, says Keenan. A more pressing issue is that hyperlocalized downscale of climate information – the process of →

translating broad, regional climate projections from global climate models into high-resolution, specific data points – is really not all that great. "If you're a big company and you've got assets all over the place, you can get a sense of what we call just exposure-level data," he says. "If you're just a small company and you're trying to get exposure-level data, it may be challenging because for any particular site, the data and the information just may not be so great."

Even still, this data is not a flawless solution. It's not always transparent, making it difficult to replicate and can often have different results depending on who's compiling it. A 2024 paper estimated that these climate risk assessment firms could be underestimating investor losses from climate risks by as much as 70%.

THEN THERE'S THE ISSUE OF INSURANCE. Increasingly, insurance companies are pulling out of areas where climate-related risks are mushrooming. This is not a hopeless problem, reckons Nicholas Faull, head of climate and sustainability risk at Marsh, the world's largest insurance brokerage firm. "What it's effectively telling us is that the underlying risks are changing," he says. If insurance is getting more expensive or insurers are pulling out of markets, that's just the industry responding to the risk signal. "Ultimately, the only answer is you have to address the underlying risk, which is by putting in place resilience and adaptation measures to bring the risk back down so that insurance continues to work," he says.

Companies need to think about what are the risks to their own assets: the buildings they own, the people who work there, and any sort of emergency response plans they may have in place. But risks also exist at what he calls the system level: "your suppliers, critical infrastructure dependencies, resources you might depend on, the communities you operate in, regulators and the people you depend on capital from," he says. "There's a whole spectrum of stuff that typically they haven't been thinking about at that holistic level."

Even still, it's becoming increasingly difficult to get ahead of the more unpredictable fallout of climate change – more specifically, extreme weather events. Faull still believes this is something that corporations can prepare for. "The first thing is to try and make that unknown more known," he says. "A lot of modeling can be done to understand the risks today and how those might change." He points to the example of wildfire risk; his firm is

*A SAFE SPACE
While some companies have literally moved operations into a bunker to ensure smooth future operations, strategic adaptation to future climate threats can provide security without sacrificing natural light.*

"Ten years ago, you would never really have thought of Europe having a wildfire problem – and yet that is becoming more and more of a reality."

**– Nicholas Faull,
Head of climate and
sustainability risk at Marsh**





doing way more work in this area in regions across the United States that previously never had to anticipate the risk of wildfires breaking out. Elsewhere, too – such as across the pond in Europe. "Ten years ago, you would never really have thought of Europe having a huge wildfire problem – and yet that is becoming more and more of a reality." The first step is having companies open their eyes to the risk, and then it's a business decision as to how to best manage those.

In some parts of the world, companies are embracing the natural environment to climate-proof their business operations. Green Mountain, a Norwegian data center operator, has transformed a former NATO ammunition storage facility into Europe's most secure and climate-resilient data centers. The facility is built deep into mountains of Stavanger and is protected by granite that provides natural cooling, physical security and near-perfect insulation from external weather

\$19

The return generated in terms of avoided losses for every \$1 invested in climate adaptation, resilience and decarbonization.

SOURCE:
THE CARBON DISCLOSURE
PROJECT

events. The ambient rock temperature eliminates the need for energy-intensive cooling systems that plague conventional data centers, while the location makes it virtually immune to floods, storms or extreme heat.

BUT CORPORATIONS DO NOT EXIST SOLELY to produce goods such as your afternoon can of Coca-Cola. What about companies that produce goods and services that are deemed essential? Say, for instance, a vaccine production factory under threat from flash flooding. Keenan points to Houston, Texas, where a hospital downtown has basically flood-proofed itself. "They have doors in the hospital that close off like you're on a submarine. And they built infrastructure to be able to have a flood come in and basically seal off the entire thing and be an island with its own power operations," he says. Then there's others that are preemptively moving places because their business is so critical. A company that stores embryos has moved to Duluth, Minnesota, because of the relatively low risk for a slew of climate impacts and hazards, because they simply cannot risk a power outage.

Considering that too few companies are taking climate adaptation seriously and building it into their business plan, what is the solution? How best to encourage action? One option could be much stronger regulation and enforcement from the government at a policy level. This is already happening: In Taiwan, the government pays its farmers not to farm so that the water they would typically use can instead be funneled toward the semiconductor industry.

But according to Keenan, market forces reign supreme. Rather than the government playing the leading role, "if there was any kind of top-down force that is motivating change, it is capital markets, it's investors, it's people who are revaluing assets." From a corporate standpoint, it serves the bottom line to prepare for the repercussion of a changing climate.

The question isn't whether companies will adapt, but whether they will do so fast enough – and comprehensively enough – to avoid the cascading failures that turn a flooded warehouse into a broken supply chain, a broken supply chain into mass layoffs and mass layoffs into communities left behind. The only real choice is whether that adaptation happens proactively, with planning and foresight, or reactively, amid the wreckage of what could have been prevented. ■

The green defense

What if the most effective climate adaptation strategy isn't concrete or steel, but forests, wetlands and reefs? Around the world, companies are beginning to treat ecosystems as vital protective assets.

BY **Steffan Heuer** PHOTOS BY **Victor Moriyama**



CARRYING THE BURDEN
The re.green project in Maracaçumé, Brazil, is converting degraded cattle ranching lands into native, biodiverse forests for high-quality carbon sequestration.

PROTECTING YOUR BUSINESS from the risks of climate change is a challenge. It is also time-consuming. Sometimes it can take a good decade to shore up your company's defenses – especially when the solution means you have to get nature on your side. Take Nespresso, whose single-use pods face criticism from sustainability experts. It sources a large part of its beans from the Brazilian Cerrado, located in the country's Central Plateau. In 2013, the company commissioned an "ecosystem services review" with the International Union for Conservation of Nature which "flagged material landscape-level risks that no single actor could solve alone."

The writing was on the wall, says Nespresso's head of coffee sustainability Julie Reneau: "We risked near- to mid-term impacts on farmer livelihoods, municipal water availability and the stability of high-quality supply." Nespresso swung into action and helped build an unprecedented coalition of growers, traders, roasters, researchers, NGOs and municipalities. The Cerrado Waters Consortium (Consórcio Cerrado das Águas, or CCA) began operations in 2019 and today covers more than 2,000 farms that receive assistance and funding to implement climate adaptation plans instead of racing to install their own emergency irrigation systems. "The main advantage is to act at landscape scale with a unique collaborative platform that brings together market competitors, cooperatives, producers and NGOs toward a pre-competitive goal: water," says the consortium's Fabiane Sebaio.

Building such an alliance was time-consuming, but the CCA has developed a "cost guide" to help farmers understand what's at stake if they don't act together. "We showed that after an initial increase in costs in the first few years, there was a subsequent 20% reduction in production costs and greater resilience to drought," Sebaio says. After the first 144 farms had transitioned to more sustainable methods and more than \$1 million in capital had been disbursed, she adds, they created an "exportable social technology" that can be applied to have production and conservation go hand in hand.

SUCH THINKING AND INVESTING beyond one single company's factory or supply chain is still more the exception. But "nature-based solutions," as experts call them, are making inroads in many industries around the world. The underlying logic is simple: Protecting nature protects balance. In an era of escalating climate risk and record disruptions,

NATIVE GROWTH
At a nursery of the Mombak project in Mãe do Rio, Brazil, the land used for the cattle ranches that ruled the Amazon for decades is now trading in something else: trees to lock away planet-warming carbon.

"We showed that after an initial increase in costs, there was a 20% reduction and greater resilience to drought."

**– Fabiane Sebaio,
Executive secretary of the
Cerrado Waters Consortium**





The alfalfa approach

A pilot at Adelaide Airport in South Australia proves that green defenses can start with a small idea and end with encouraging results.

WORKING FOR the local water authority, engineer Greg Ingleton came up with a novel idea to adapt to extreme heat at the airport with almost nine million passengers per year: plant alfalfa on four out of 200 hectares around the airfield.

It took just \$200,000 to get the pilot going, and after three years, the results were encouraging. Average temperatures, which can reach well into the 40 C range, went down by 2.4 degrees, which translates into reduced energy use for cooling the terminal building and less stress

on ground staff. Lower temperatures also reduce fuel use during takeoff and prevent tire bursts. What's more, selling the alfalfa harvest produces a recurring annual profit.

After talking to other airports in hot settings such as Abu Dhabi, Riyadh, Delhi, Brisbane and Sydney, his idea was put on hold by pandemic-related travel shutdowns. Yet the engineer remains optimistic: "I am hoping it will eventually become a standard activity in many hot airports. It just makes sense. Perhaps it is too simple for people to really see the benefit."

companies have begun to rethink how ecosystems can be part of their business plan. The best and most efficient infrastructure to manage risk is the one you don't need to build.

In 2022, the UN Environment Assembly defined nature-based solutions as "actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems while simultaneously providing human well-being and biodiversity benefits." That's a lot of jargon many business leaders will not immediately write a check for, admits Giulia Carbone, an executive with the World Business Council for Sustainable Development (WBCSD), a global organization that brings together 200-plus multinationals. "Nature-based solutions are conservation action driven by a societal challenge, not a concept designed for business," she adds. But companies can no longer ignore the risks to their operations when ecosystem services provided by nature collapse.

70%

How much of the Cerrado Waters Consortium's funding is derived from the membership fees of associated businesses. The remainder comes from grants and a variety of nonrepayable funds.

SOURCE:
CCA

Floods, landslides, wildfires, drought can shut down suppliers, destroy factories, prevent employees from coming to work and even tank share prices. Yet while apprehension about the next natural disaster is rising, companies still need guidance on why it makes sense to invest in broader adaptation measures. "The business case remains difficult to articulate and investment remains inadequate," the WBCSD admits in one of their reports on the topic. Carbone puts it more bluntly: "Building a wall or planting some trees on the roof take a year, but neither is a nature-based solution. Interventions to protect and restore nature take 10 years or longer and require collective engagement."

A PROPER GREEN DEFENSE starts with identifying a company's specific risks and priorities and then identifying all the other actors that share the same problem and hence have an interest in sharing the solution – and costs. Carbone and colleagues →

usually start talking to a company's sustainability people. Next, they rope in experts from the finance, procurement and risk management functions to make sure "they understand how this can really be worth the investment."

To this day, nature-based solutions suffer from the so-called "tragedy of the commons" when pursuing individual short-term gain en masse ruins a public good. Earth provides free protections that everyone likes to use and benefit from but no one really pays for: Forests serve as carbon sinks, mangroves and wetlands protect against storm surges that would otherwise inundate or wash away factories, warehouses and office buildings, the vast oceans absorb massive amounts of humanity's pollutants while providing food, shipping lanes and corridors for fiber-optic cables without which globalization wouldn't exist.

Companies, it turns out, have been more or less freeriding so far. Wildfire risk is a good example. The parched landscapes of California, home to Silicon Valley, the epicenter of the tech industry and current AI boom, go up in flames much more often, affecting both companies and citizens. Yet when in 2023 environmental consultancy SWCA put together an innovative community wildfire protection plan in the area that also benefits the large tech players, funding came entirely from public grants. "Building resilience to wildfire risk is an operational imperative," says SWCA's Victoria Amato. "Businesses' facilities as well as their access to energy, water and transportation networks are vulnerable to wildfire disruption." Her organization's big focus this year, therefore, is to "start meeting with and pitching to some of these companies on why it makes sense for

\$117
million

How much investment ORRAA has activated both through the in-kind support of members and by leveraging an additional \$65 million of direct investment.

SOURCE:
ORRAA

them to start investing." What could help convince them is a tool called ROSI (Return on Sustainability Investment) that the firm developed with economists at New York University's Stern School of Business to calculate ROI on sustainability measures.

IN THE FINAL ANALYSIS, it comes down to showing the financial benefits to invest in coral reefs, mangroves or fishing communities in faraway places that most executives will encounter on their scuba holiday. "Nature is the biggest ally that we have as a risk hedge to invest in. It makes short- and long-term business sense," argues Karen Sack, executive director of the Ocean Risk and Resilience Action Alliance (ORRAA). ORRAA is connecting the international finance and insurance sectors with governments, nonprofits and stakeholders from the Global South to build and introduce novel finance products. "Nature has been subsidizing our lifestyle, but we've been spending down that free subsidy without considering what

PHOTO: VICTOR MORIYAMA/NTT/LAIF



Nine different ways green defense plans can pay off



1. Reduce supply chain risk and strengthen supplier engagement



2. Reduce risk exposure in own operations



3. Reduce business impact on nature and biodiversity



4. Improve business performance, e.g. by improving the quality of raw materials



5. Support regulatory compliance and protect your license to operate



6. Control and reduce CAPEX and OPEX

SOURCE: WBCSD



that means. The ocean is probably the largest capital asset, and two-thirds of publicly listed companies are potentially exposed to risk from a changing ocean," says Sack.

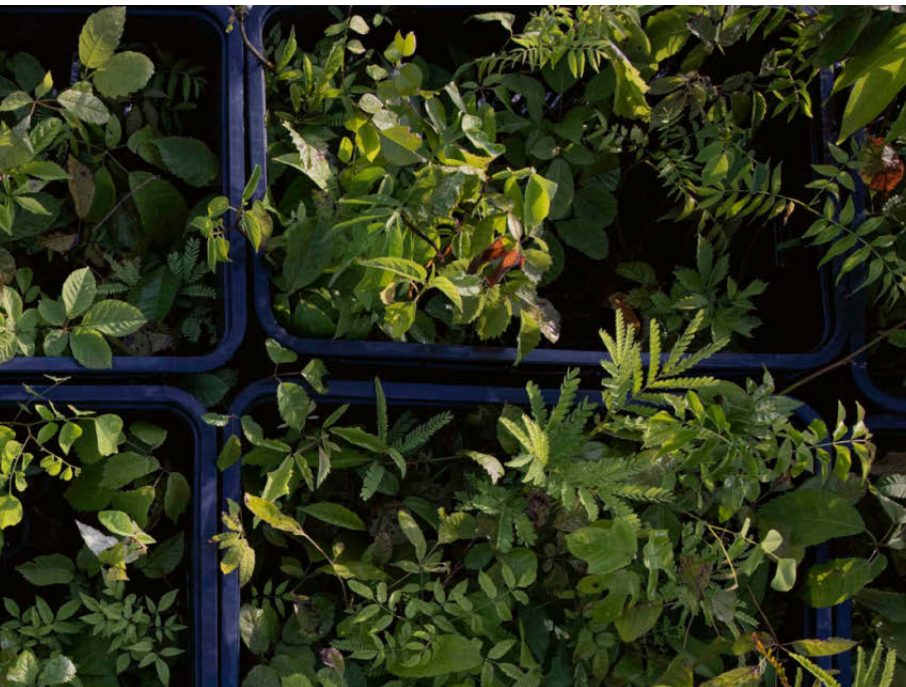
So far, her organization has helped develop and roll out 50 new finance and insurance products, from reef insurance issued by AXA Group and Munich Re to a new bond called T. Rowe Price Blue, which at its launch in September 2025 raised more than \$200 million. "It was totally oversubscribed, so there is real interest in the space," says Sack. The key is to get from philanthropic trials to commercially viable products that scale. "What we hear from our partners is that the lack of an investable product pipeline is holding them back."

Over the course of four years, ORRAA has helped activate around \$117 million in investments (on top of \$20 million in grants), and Sack is confident it can reach its declared goal of \$500 million by 2030. Another focus of the alliance are knowledge products

*A ROOTED FUTURE
Native Amazonian
tree seedlings
are raised at the
Mombak company
nursery in Mãe do
Rio, Brazil, as part
of a reforestation
project to sell carbon
sequestration to
large multinational
companies involved
in reducing green-
house gas emissions.*

"Nature is the biggest ally that we have as a risk hedge to invest in. It makes short- and long-term business sense."

**– Karen Sack,
Executive director of the Ocean
Risk and Resilience Action Alliance**



that companies can use to better understand their risk exposure, for instance whether they should insure ships that are involved in illegal fishing.

THERE ARE BRIGHT SPOTS on land, too. Mombak, a Brazilian startup founded by two young tech executives, has closed record carbon removal deals with both Microsoft and Google. In early 2024, Microsoft signed an agreement to remove 1.5 million tons of CO₂ from the atmosphere through 2032 with Mombak's Amazon rainforest restoration project. Google struck a similar pact with Mombak to remove 200,000 tons. "Both companies actively help us design, stress-test and validate what high-integrity carbon removal should look like," says co-founder Peter Fernandez. The focus on what really works – and not greenwashing math – is deliberate. "The carbon market's reputational damage is partly deserved," he admits. "Early markets included projects that were poorly designed, poorly monitored and in some cases outright fraudulent."

By working with forestry services and farmers in Brazil, the startup aims to address two problems at the same time: help tech companies balance out the environmental consequences of the voracious growth of cloud computing and AI offerings, as well as restore overfarmed, stressed lands in the Amazon. "Nature-based solutions," says Fernandez, "belong at the core of corporate risk management and business continuity strategies." ■



7. Deliver direct and indirect health benefits to communities and employees



8. Decarbonize value chains through improved agricultural practices



9. Strengthen recruitment, employee engagement and brand image



Leadership without friction

*You don't have to be brilliant to be a great leader – just willing to learn.
Former WD-40 Company CEO **Garry Ridge** explains how building
a people-focused, fear-free culture helped boost employee engagement
and turn the US brand into a global success.*

BY **Geoff Poulton** PHOTOS BY **Shaughn and John**

THE FORMER CEO of a multibillion-dollar company, Garry Ridge now refers to himself – tongue slightly in cheek – as a “PIP” – a Previously Important Person. It's a moniker very much in keeping with the Australian's humble, down-to-earth approach that has shaped his career. Ridge may no longer be in the public eye, but you'll likely recognize the brand at which he made his name: WD-40 is a product known around the world for its ability to fix anything from squeaky hinges to bicycle chains or rusty machine parts.

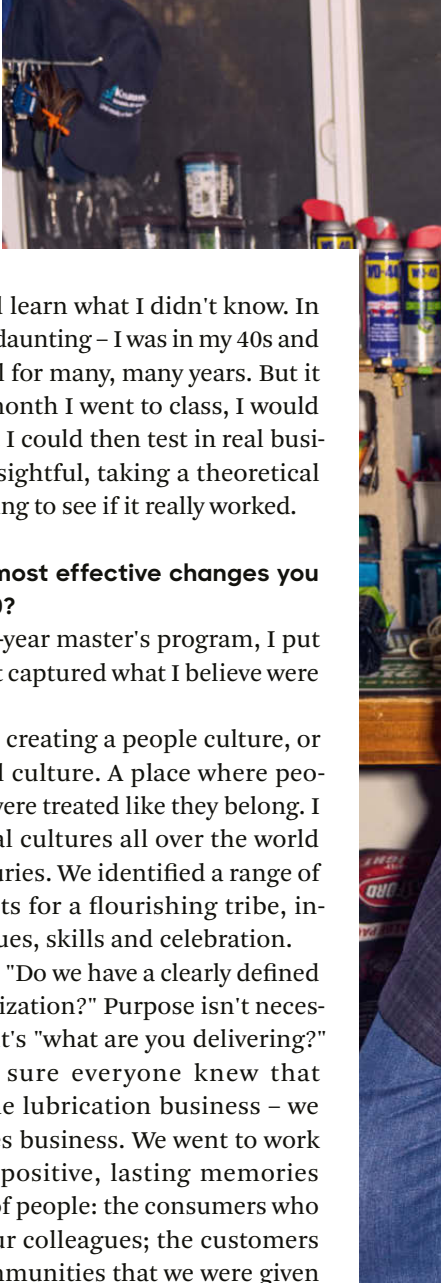
He led the San Diego-based company for 25 years until 2022, transforming it from a firm with limited international presence to the global operation it is now with sales in more than 170 countries and 700 employees around the world. While it is best known for its signature multiuse spray

*NO SHADE OF DOUBT
Despite having
described himself
as the “consciously
incompetent,
probably wrong and
roughly right CEO,”
Garry Ridge's plain-
spoken approach to
leadership at WD-40
exuded the same
quiet confidence as
he displayed during
an exclusive photo
shoot with Think:Act
at his Southern
California home.*

in a blue-and-yellow can, the WD-40 Company expanded under Ridge and now comprises a group of brands featuring a range of maintenance, specialty and cleaning products.

The key to Ridge's success was his focus on company culture. Inspired by Aristotle, the Dalai Lama and tribal cultures around the world, he helped ensure employees at WD-40 Company feel safe, valued, happy and committed to their work. Employee engagement scores consistently reach 90% or more.

His self-effacing 2025 book, *Any Dumb-Ass Can Do It*, distills Ridge's decades of experience into a plainspoken guide to finding balance and generating a widely admired company culture. In this exclusive interview, Ridge discusses the keys to great leadership, creating an engaged workforce and why “dumbassery” is a superpower. →



Your recent book is called *Any Dumb-Ass Can Do It*. Why did you pick that title?

In Australia, ass means donkey. Now, donkeys get a bad rap – people think they're just stubborn or slow. But here's the truth, and it aligns with leadership: Donkeys are steady. They're loyal. They know how to conserve energy and to get the job done. And while they may not always rush into things, that caution often keeps them safe. So, when I say any dumb-ass can do it, what I really mean is you don't have to be brilliant to be a great leader. Because, like the donkey, leadership isn't about showing off. It's about carrying the load, sticking with the journey and helping others get to where they need to go.

You talk about the importance of "learning moments" throughout your career. How would you describe the concept and what have been your biggest ones?

I define a learning moment as a positive or negative outcome of any situation that needs to be openly and freely shared to benefit all. I didn't know it at the time, but my first big one came when I'd just been promoted to CEO of WD-40 Company and was reading an article by the Dalai Lama. Two sentences jumped out, which would change the way I would live out the purpose of my own career. "Our prime purpose in life is to make others happy. And if we can't make them happy, at least don't hurt them."

How did that affect your tenure as CEO?

When I was appointed, my mandate was to expand what was mostly a US-based product into a major global brand. That meant establishing an organization where people felt safe and were free to make decisions without quacking up the hierarchy somewhere around the world. We needed a culture that empowered people, where they felt like they belong, where they knew their work mattered.

There were two ideas that helped shape my formula to implement this approach. One was the quote from the Dalai Lama and the other was Aristotle's idea that "pleasure in the job puts perfection in the work." A crucial third part was attending the executive leadership program at the University of San Diego by Dr. Ken Blanchard.

You were already in your second year as CEO when you started that program. What motivated you?

I think it was pretty unusual for the CEO of a US public company to go back to school two years into the journey. Essentially, I wanted to confirm what



Garry Ridge
.....

Garry Ridge joined WD-40 Company in 1987, rising from Asia-Pacific managing director to president and CEO in 1997 – positions he held for 25 years. Ridge helped transform WD-40 into a globally admired organization with net sales of \$518.8 million by the time he stepped down in 2022. By 2025, net sales had reached \$603 million.

Now chairman emeritus at WD-40 Company, Ridge is also an executive coach as well as adjunct professor at the University of San Diego, where he teaches on the executive leadership program.



Short Takes

Discover the bonus video interview with Garry Ridge online
→ thinkact.rolandberger.com/en/ridge

I thought I knew and learn what I didn't know. In the beginning, it was daunting – I was in my 40s and hadn't been to school for many, many years. But it was exciting. Every month I went to class, I would learn something that I could then test in real business. That was so insightful, taking a theoretical learning and then going to see if it really worked.

So, what were the most effective changes you introduced at WD-40?

At the end of my two-year master's program, I put together a model that captured what I believe were the key elements.

The first one was creating a people culture, or as I called it, a tribal culture. A place where people actually felt and were treated like they belong. I was inspired by tribal cultures all over the world throughout the centuries. We identified a range of essential components for a flourishing tribe, including learning, values, skills and celebration.

Number two was: "Do we have a clearly defined purpose in the organization?" Purpose isn't necessarily your product, it's "what are you delivering?" At WD-40, I made sure everyone knew that we weren't just in the lubrication business – we were in the memories business. We went to work every day to create positive, lasting memories for different groups of people: the consumers who used our product; our colleagues; the customers we supplied; the communities that we were given permission to live in; and even the environment that allowed us to operate.

The next one was values. We implemented a set of hierarchical values to protect people and set them free – enabled them to make decisions without fear. We also got rid of the word manager. Because our job as leaders is not to manage people, it's to coach them. At the center of this process is a philosophy I called "Don't mark my paper, help me get an A."

And then finally, how do we take fear out of the organization? One of the key foundations of that was we said: "We don't make mistakes – we have learning moments." Every great invention is the result of learning. So, we said we're going to be a learning organization, not a fear-based, anti-failure organization. Most people in organizations don't lie; they fake and they hide. And the reason they fake and hide is because of fear. So, one of the greatest gifts we can give to organizations as leaders is to ensure that we're creating an environment where fear is not the driver of behavior – it's care and learning.



"To me, dumbassery is a superpower. The three most important words I ever learned in my life were 'I don't know.'"

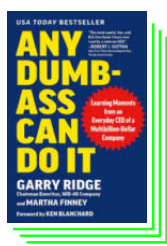
– Garry Ridge

number of employees responding positively to the question "I am excited about my place in the company's future" had actually gone up. So, I asked them to find out why. And this was probably the most rewarding moment in my career: People said the reason was that they felt safe. That showed to me that we were living our tribal promise. At the time, it was also the best financial year in the company's history.

Was there any resistance to these changes?

When we started to implement this, back in the early 2000s, people didn't really talk about culture too much. I think there was a feeling that having a people-focused culture was all about pizzas and parties. It's not that at all. Great leadership is a balance between being tough-minded and tender-hearted; the genius is the "and" in the middle, knowing when you have to lean in with empathy and knowing when you have to lean in with direction.

Time was a big factor. You can't sprinkle fairy dust on an organization to change the culture. After we started to implement the changes, people saw our employee engagement numbers start to rise. This was proven during Covid-19. Just prior to the pandemic, we had really high employee engagement numbers – over 90%. In early 2021, we did another pulse survey and the numbers had remained the same, with one exception: The



Any Dumb-Ass Can Do It: Learning Moments from an Everyday CEO of a Multibillion-Dollar Company by Garry Ridge, 256 pages. Matt Holt Books, 2025.

How would you describe your leadership style?

I had to learn pretty quickly how to shut up and be a better listener, to not want to micromanage. To me, dumbassery is a superpower. The three most important words I ever learned in my life were "I don't know." Leadership is about getting comfortable with that and surrounding yourself with people who can help you find the answers.

Is this humble style of leadership becoming more or less prevalent?

I think it's becoming more common, but there's still a huge void. Everybody thinks this is soft stuff, but it's really, really hard. We're dealing with the most complex thing in the world: human beings. If it were easy, the world wouldn't have such despicable employee engagement numbers. According to the latest Gallup figures, global employee engagement is down at 20%. So, I think there's a bigger awareness of it, but you have to have patience. It's simple, but it's not easy. ■



A TÊTE-À-TÊTE WITH

Teresa Amabile

*To some, the findings of Teresa Amabile's book, **The Progress Principle**, might now seem obvious. But her meticulous research and irrefutable data proved something that has helped change management approaches across business.*

BY **Mark Espiner**

ILLUSTRATIONS BY **Nigel Buchanan**



How did you come to research what makes people motivated, productive, happy and creative at work?

I really appreciate that question because it allows me to go back, oh my goodness, almost 30 years now. I had done a lot of research before the mid-90s looking at creativity in organizations at a 30,000-foot level, like you're flying in a plane and looking down at the landscape of work inside organizations without really knowing at a more detailed microscopic level what happens day by day that leads people to be motivated toward creative productivity in their work. I didn't know how these great or awful work environments arise. I wanted to get in there at a more microscopic level. And that's what motivated this research of using daily diaries to, in a way, try to crawl inside people's heads and experience in as close to real time as we could, experience through their eyes, through their words – what they were experiencing every day at work.

What was your reaction to finding that a sense of progress was a key motivator?
Our most important breakthrough finding was that people's inner work life,

and hence their ability to do great work, depends most prominently, most importantly, on progress in the work – even if it's small, seemingly small, incremental progress. That's the progress principle. I did not expect that. Steve [Kramer, her husband and co-author] didn't expect that. What I expected we would find was moments of being recognized or praised for your work as the most important boost to your psychological state. I was so surprised when I saw progress as the single most important event. And it wasn't by a little – it was by a huge margin. I thought it had to be a mistake, so I insisted that we had to rerun the analyses. But it was not a mistake. So I don't fault anyone who may have somewhat skeptical reactions because I was a little skeptical when I first saw it. I think now – to me, of course – it makes perfect sense. But at the time it didn't. →



Available online

Watch the video interview with Teresa Amabile
→ thinkact.rolandberger.com/en/amabile



Progress proponent

An emerita professor at Harvard Business School, Teresa Amabile has spent decades studying creativity and motivation. Her 2011 book *The Progress Principle* and 2024's *Retiring* use a storytelling style to relate the conclusion of years of research: Money and other incentives don't boost productivity, but a sense of progress does. This interview was conducted via the Global Peter Drucker Forum.

How did the business community react to your findings?

Their initial reaction was: "It's obvious. Everybody knows that." And it was kind of dismissive. But I knew by reading these 12,000 diaries that managers and leaders sure didn't act like they knew this progress principle. Their behaviors suggested that they weren't even really paying attention to the progress their people were able to make day by day. So I tried to think about what can we do to make it clear that this is something people need to pay attention to. And that's where we came up with the idea of doing this additional, very small study to survey almost 700 business leaders at different levels and give them a simple survey question. Here are five employee motivators. Rank order them in importance. And what we found was that progress came in dead last in the survey of nearly 700 managers. Only 5% of the respondents rated progress number one. So it's like they were actively downgrading progress. It's like they were actively saying, okay, this is not something that matters. Near the start of talks on this research, I often ask audiences to guess what the number one employee motivator is. After a few people give their answers, I say: "I'll tell you about it in a few minutes. But I will tell you that none of the guesses that the people in this room have just shouted out loud are the answer." Later in the talk, when people see that progress is the number one motivator, and that only 5% of managers realize that, our findings no longer seem so obvious.

Has this emphasis on progress become more embedded in business practice since the book came out?

I like to believe that it's become more prominent in the minds of managers. I see it often referenced in business articles, even sometimes without a reference to our book, which in a way kind of disappoints me. But actually, that means to me that it has become part of the general gestalt of business knowledge.

Journaling was a key tool in your book. Have you continued using it yourself or applied it in other ways?

When we were finishing this book, I said: "Steve, we've seen the power of journaling." Many of our 238 participants told us: "This has been an incredibly useful exercise for me these past months. I feel that I've become more aware of what helps and hinders my own work." And a few of them even asked us: "Can you continue sending me these

diary forms every day?" We didn't have the infrastructure to do that, but we encouraged them to do it on their own. Since then, I've been keeping a daily journal myself and find it very helpful.

I have had one MBA student who started journaling when she took my course at Harvard Business School and who then became very prominent in business several years ago. She said she found it so useful that she's never going to give it up. She credited the journaling with

Build your retirement path with the four "A"s

①

Alignment

Work toward a good fit between your self – your identities, values – and your life structure, everything important in your life.

②

Awareness

Develop a sense of the self you are now – not who you used to be – and how the dynamics in your life structure are affecting you.

③

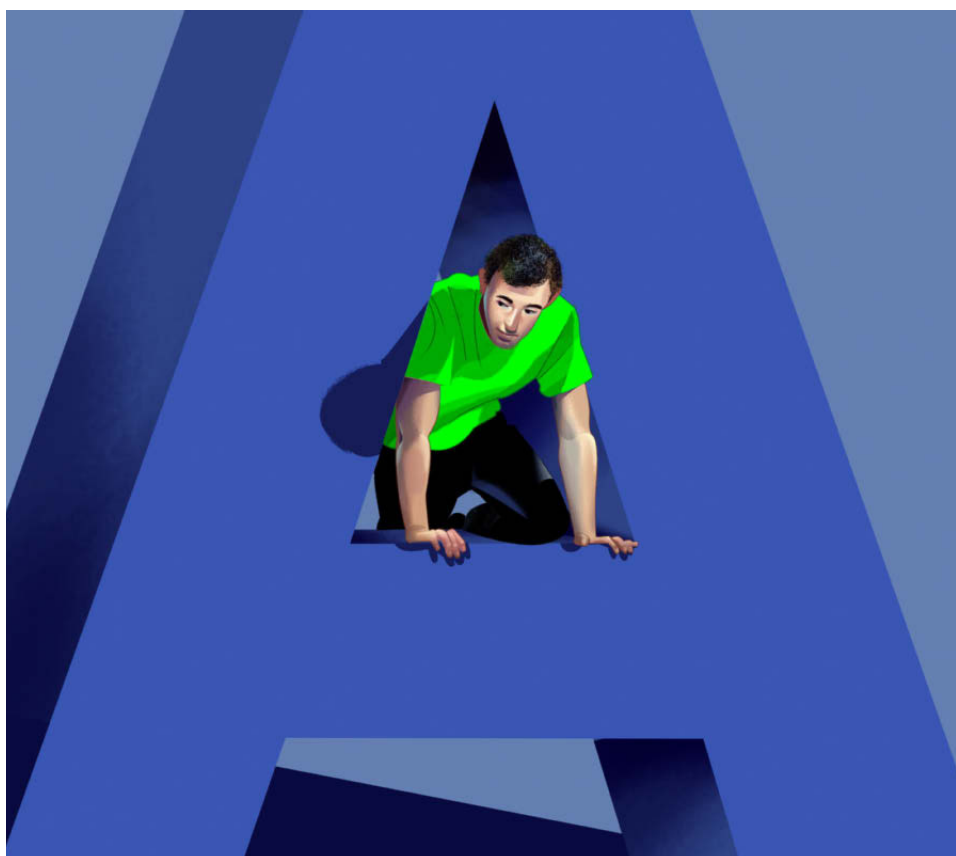
Agency

If your life structure isn't satisfactory, or viable for the longer term, exercise agency and make the needed changes.

④

Adaptability

The truth is that many things are out of our control. So, when we don't have agency, we need to accept and adapt.



being able to start her entrepreneurial business, which became an international sensation. She came back years after she graduated and told me that she credited her journaling, which she found so useful, and which she kept up. I think she's still journaling and it's now about 20 years since she took the course.

In the book we provide journaling guides for leaders. We also provide a checklist which we hope they will use.

What advice would you give C-suite executives about connecting strategic vision to day-to-day progress?

I'd advise people in the C-suite of any company to devote at least 5% of their attention over the course of a month, or a year, to what's happening in the trenches, on the ground, on the front lines – whatever expression you want to use. Because those are the people who are tasked with carrying out your beautiful strategy. It doesn't matter how insightful and innovative and breakthrough your strategy is if it is not effectively implemented. And ultimately, it's your workforce that's implementing your strategy. So you need to have ways of understanding what is facilitating or hindering their progress in carrying out the strategy and what is facilitating or hindering their well-being in the workplace. Because if they have poor well-being, if they have poor inner work life, they are not going to be able to do their best work.

If you were doing this research today, with AI helping you perhaps, how would you change things?

I want to say something about the historical time period in which we did this research: I do not believe that we could get people in business to fill out these diaries now. We just couldn't because people have so much coming at them every day. We would not get 75% rates of response if we did this today.

I believe that AI could be extremely helpful if we were analyzing the data today in a few ways. One way would just

be categorizing the events. But beyond that, I hope we wouldn't rely more than that on AI, because I believe that our human brains were necessary to creatively interpret what we were seeing, what patterns were emerging, and to be able to understand the emotionality in what people said, how they said it. I don't think AI is nearly at the point that it could do that effectively.

From progress you moved on to the topic of retirement. Why did you choose that as your next research subject?

The interest in retirement did actually arise from the progress principle research. Because after we published the

book, after we had kind of wrapped up that project, I found myself wondering: "Okay, if progress in meaningful work is so important to people's psychological well-being day by day during their careers, what happens when that meaningful work goes away? What happens psychologically when it ends? And how do people deal with that?" So it was that motivating question – "what happens when meaningful work ends?" – that drove me to want to deeply research retiring as a transition.

So, is there a right way to retire?

No. There is no single right way. To tell you the truth, I was kind of hoping we'd find some secret recipe, the silver bullet. And that was a silly expectation. We found that there are multiple approaches to having a smooth transition into a satisfying retirement life. But there was one clear commonality. Everyone who retires from a career has to engage in four tasks to complete their retirement transition. The first is deciding when and how to retire. The second is detaching from work. Not just tangibly but most importantly, psychologically detaching from your work. The third is building a provisional retirement life for yourself by exploring and experimenting with new places to be, new activities, new groups. And then there is the fourth task, which is consolidating a more or less stable retirement life from those provisional elements that seem to work best for you. ■

"People's inner work life, and hence their ability to do great work, depends most prominently on progress."

– Teresa Amabile



The power of a small win

.....

The most ordinary, incremental progress can increase engagement and boost happiness. Clear goals, respect and recognition are some of the factors that set the tone to turn the completion of even a small job into a meaningful motivator.



ZOOMING IN ON

The new credit paradigm

Why companies would be wise to brace for higher financing costs.

BY LATE MARCH 2026, Isabel Schnabel, economist and member of the European Central Bank's executive board, gave voice to what many had already begun to suspect: "The specter of inflation has returned." In her view, it has done so faster than "many people" had expected. The immediate trigger was the war in Iran, which pushed up energy prices and, by extension, the production costs of a wide range of goods. Yet the fuller truth is that inflation never entirely disappeared.

Even before the conflict in Iran, the notion of a swift recovery from the post-pandemic price shock was beginning to fray. One example stands out: Services inflation, a key measure of domestic price pressures, has remained well above the ECB's 2% target for the past three years and reached 3.4% in February. That alone dealt a sharp blow to hopes of rapid interest rate cuts by central banks. Now, the direction of travel appears to be shifting again – this time toward further increases. For companies, that is bad news.

If policy rates do rise, corporate borrowing will become markedly more expensive, whether for taking out new loans or refinancing existing debt. The reason is straightforward: Corporate financing

conditions remain closely tied to 10-year sovereign bond yields. To put it simply, if government bond yields rise, corporate borrowing costs are likely to follow – and may well rise by more. In this context, a rising number of companies is likely to face a stern test within the next two years, when the so-called "maturity wall" peaks, at which point firms will be forced to roll over existing debt at significantly higher cost.

Of course, the end of a credit cycle is almost impossible to predict: The moment when a long borrowing expansion that supports economic growth begins to reverse rarely announces itself clearly. Even so, there are growing signs that a perfect storm may be starting to build in credit markets. Loan growth is slowing, lending standards are tightening and investors are demanding higher risk premia.

Against this backdrop, businesses must brace not only for higher effective borrowing costs, especially on riskier loans. Collateral and reporting requirements are also likely to become more onerous. In practice, that means more conservative asset valuations, increased demands for personal and corporate guarantees and stricter haircuts on commercial real estate and machinery.

Available online

Zooming In brings you the latest analyses from the Roland Berger Institute, exploring economics, global dynamics and emerging trends.

Access the full analysis behind this article here:
rolandberger.com/en/Insights/Publications/Rising-risks.html



THIS MAY BE A TURNING POINT for the global financial system. The current turmoil is hitting at a moment of profound change in the global financial system. That shift is being driven by three closely linked forces that reinforce one another. Together, they strengthen the sense that the era of cheap money and low-cost credit is drawing to a close.

First, there is the burden of public debt across advanced economies, which has recently climbed to troubling levels and is now forcing a repricing of risk. The result is a higher floor for interest rates. Consider the scale: According to 2025 data, global government debt has reached \$111 trillion, with 57% of that figure concentrated in the US (\$38.3 trillion), the Eurozone (\$15 trillion) and Japan (\$9.7 trillion).

Second, capital concentration in the AI sector is playing an equally important role. The so-called Magnificent Seven – Alphabet, Amazon, Apple, Meta, Microsoft, Nvidia and Tesla – account, at the time of printing, for a record 34.75% of the S&P 500. The concern is that the latest rally has been fueled in part by margin debt, which has climbed to a record \$1.2 trillion, underlining the scale of leveraged positioning. By February 2026, investors' cash allocations had fallen to a historic low of 3.2%, suggesting that fund managers had largely exhausted their liquidity reserves in pursuit of the AI-driven surge.

That concentration leaves markets with fewer escape routes in periods of stress. In a broad sell-off,

“Whatever course the crisis in the Middle East takes, uncertainty will remain. The risk of disruption in energy markets and supply chains is therefore unlikely to fade.”

passive funds would be forced to move in the same direction at the same time, channeling flows into a narrow set of already crowded trades. The danger is a self-reinforcing cycle: Selling intensifies, pressure builds and the largest, most heavily owned stocks fall faster still.

Third, there are growing strains in the private credit market. It flourished over the past decade and gave many companies a welcome alternative to traditional sources of finance. But the tide has now turned. The risk of bad loans is rising, while leveraged structures are coming under increasing pressure. That is hardly good news for companies. The amount of corporate bonds below investment-grade coming due will double to over \$1 trillion by 2028 as compared to this year. Refinancing these will be challenging given current interest rate levels.

THERE ARE IMPLICATIONS FOR COMPANIES and, whether they like it or not, they must adapt to this new reality. Whatever course the crisis in the Middle East takes, uncertainty will remain – and may well deepen. The risk of disruption in energy markets and supply chains is therefore unlikely to fade. For executives, that means preparing for higher risk premia and tighter financing conditions. In this environment, companies that depend on new borrowing or the refinancing of existing debt would do well to focus on four priorities:

→ **PLAN ON THE BASIS OF CAUTION**, not optimism.

Growth stories alone will no longer convince lenders. Companies should focus on investments that pay off quickly and avoid overcommitting to ambitious expansion plans.

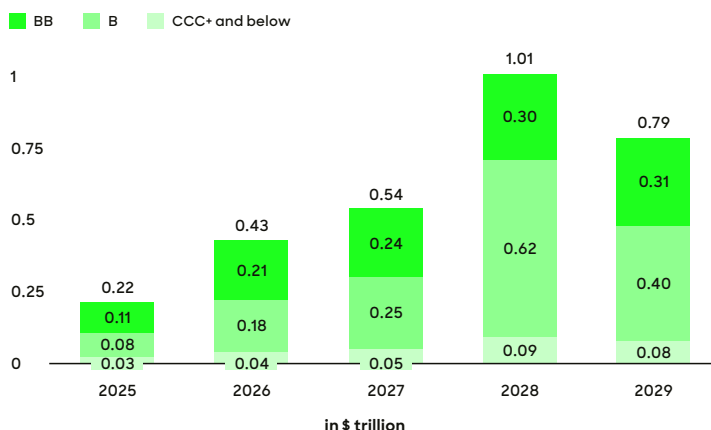
→ **SHOW THAT THE BUSINESS CAN COPE** in the face of a downturn. What matters now is not just how much debt a company carries, but how well it can hold up when conditions worsen and profits come under pressure.

→ **KEEP A CLOSE GRIP ON CASH**. In a tougher credit environment, lenders want proof that a company can stay liquid even in difficult months. Clear cash planning and room to react have become essential.

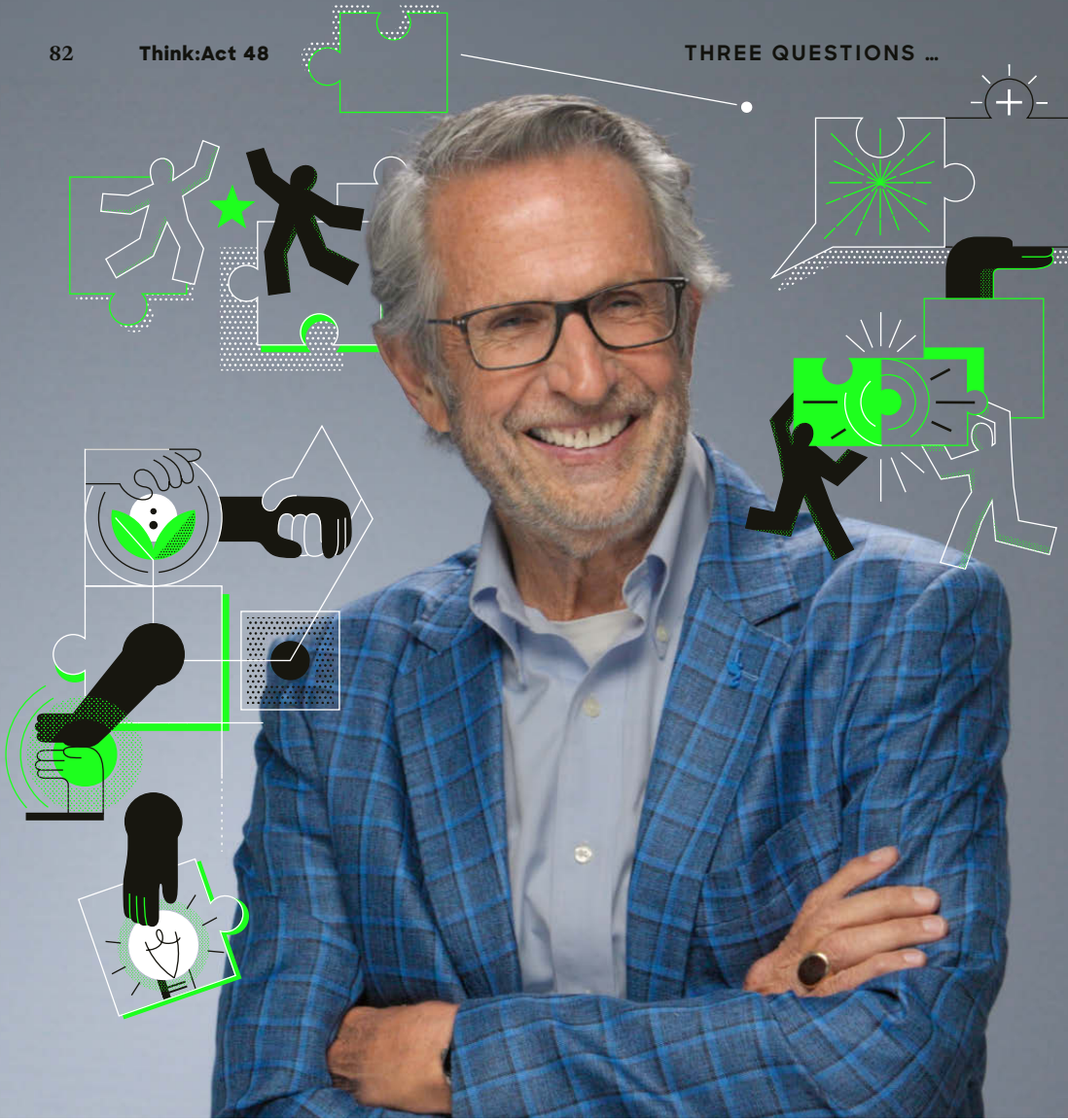
→ **MAKE THE FINANCING STORY EASY TO TRUST**. Companies need to present their balance sheet, reserves and risk protection in a clear and credible way. Strong relationships with lenders and investors matter more than ever.

The maturity wall

Global amount of non-investment grade debt coming due by year, by rating



SOURCES: ROLAND BERGER INSTITUTE, S&P GLOBAL



Bob Chapman was, until his death in March 2026, chairman of global manufacturing and engineering firm Barry-Wehmiller, where he previously served as CEO for 50 years. His philosophy of "Truly Human Leadership" is laid out in his book *Everybody Matters*.

cared for, it releases in them the capacity to care for others.

➤ **Being nice is nice, but does it make business sense?**

How do you justify not caring for people? You shouldn't be a leader then. Think of the level of hurt and suffering that we are imposing with this economic model we've had since the Industrial Revolution – because we thought money would create happiness, and it doesn't. We need a model where we create human and economic value in harmony.

➤ **How can we counter today's aggressive narrative about dominance, winning and even "more masculinity"?**

Today's education is creating people who are focused on money, power and position at any expense to others. My goal is to impact education, from kindergarten to 12th grade, to bring human skills into our schools. So, when kids graduate, they are ready to go out and live in the beauty of diversity. We want to create tomorrow's citizens of the world who have the skill to care for others. The key is laying the foundation so we don't have to fix adults anymore.

Caring for people is essential

*Treating employees only as functions to be paid is a core problem of today's economic system, argues the late Barry-Wehmiller Chairman **Bob Chapman**.*

INTERVIEW BY **Steffan Heuer**

ILLUSTRATIONS BY **Julia Zimmermann**

➤ **You say "caring leadership" is not just a moral choice, but also a strategic advantage. Can you explain?**

I once saw people as functions for my success. I was a nice guy, but it was an economic relationship. I thought if I paid you fairly and gave you competitive benefits and you gave me your gifts, that was the exchange. But I realized that the 12,000 people in my care are not engineers, accountants, secretaries, machinists. Everyone's a precious child who's placed in my care for 40 hours a week. The way I treat those people will profoundly affect their health and the way they go home and treat their spouse and their kids and live their life. When people feel

Think:Act

Published in August 2026

ISSN 2628-2895

**Roland
Berger**

Roland Berger Holding GmbH & Co. KGaA
Sederanger 1, 80538 Munich, Germany
Tel: +49 89 9230-0 | rolandberger.com

Publisher

Stefan Schaible
Global Managing Partner

Head of Global Marketing & Communication

Julia Sosnizka

Creative Director

Christine Brand

Editor in Chief

Neelima Mahajan
neelima.mahajan@rolandberger.com

Editorial Support

David Born, Emanuele Savettiere

Editors

Steffan Heuer & Mark Espiner

Sub-editor

Melissa Frost

Design Direction

Jennifer David, Rodolfo França

Photo Director

Anna Bianchi

Art Directors

Franziska Goppold, Laura Risse, Michael Heitschötter

Digital

Natalia Wilhelm, Nina Reetzke,
Wolfgang Kolbow, Caroline Whiteley

Digital Design

Gaia Bessone, Damaris Zimmermann,
Julia Klein, Janosch Wojcik

German translation

Christian Gschwendtner, Peter Vogt,
Peter Hahne, Eva Scharmann

Print Manager

Silvio Schneider

Project Manager

Meike Lehmann

Production

Vogel Corporate Solutions

Printing

Druckhaus Sportflieger GmbH

COPYRIGHT NOTICE

The articles in this magazine are protected
by copyright. All rights reserved.

DISCLAIMER

The articles in this magazine do not necessarily
reflect the opinion of the publisher.

RESPONSIBILITY

In this issue we used special inks which
separate from the paper, which means this
magazine can be easily recycled to make
other high-quality print products.



Think:Act is Roland Berger's multiple-award-winning magazine offering insights and inspiration for senior executives to navigate the business challenges of today – and tomorrow. Top experts, authors and academics all provide valuable food for thought and ideas for impactful management and leadership in a context of continual change.

Roland Berger is the only leading global strategy consultancy of European origin. The firm combines deep industry expertise with broad experience across core management functions and transformation programs. Founded in 1967 and headquartered in Munich, Roland Berger supports companies worldwide in shaping and executing complex transformations – from strategic repositioning and performance improvement to the development and application of data-driven, AI-enabled solutions. The firm is committed to embedding sustainability across all its projects. In 2025, Roland Berger generated revenues of over €1 billion.

Interested in *Think:Act*?

Stay ahead of the curve with our latest insights. Scan the code to explore more articles, interviews and trends.



Sign up for our
newsletter and
don't miss an issue!



Visit the digital edition
for exclusive content
and insights.

This issue's contributors:



Marius Jopen

is a global creative technologist based in Berlin. Translating emerging technologies into digital systems and visual narratives, he has worked with clients from McLaren and LVMH to the Institut Français de la Mode and the Federal Government of Germany.

→ COVER AND PAGE 40



Paul Kielstra

is a freelance author focused on business analysis, IT, health care, energy policy, fraud control, trade and international relations. He has written for the *Financial Times*, *The Economist*, the World Health Organization and the Atlantic Council.

→ PAGE 40



Alys Thomas

is a French/British photographer and AI creative based in Marseille who has worked with clients including Google and Hermès. Playing gracefully with textures, colors and light, she captures the essence of what makes life both absurd and beautiful.

→ PAGE 14

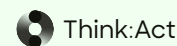


The story continues.
Unlock exclusive videos,
audio features and
expanded insights in our
digital edition.

**"RAW INTELLIGENCE
WILL BECOME
A COMMODITY.
THE WAY WE FIT THIS
INTELLIGENCE
↳ to each human like
a glove WILL BECOME
THE SPACE FOR
DIFFERENTIATION
AND COMPETITIVE
ADVANTAGE."**

+ SINAN ARAL
PROFESSOR AT MIT SLOAN

As AI masters intelligence,
what does it actually mean
to remain human?



The next frontier isn't building and
mastering smarter systems. It's
knowing who you are clearly enough
to direct them. Expertise, identity and
judgment become the scarce inputs.
The bottleneck was never intelligence;
it was always the wisdom of remaining
human. Just wait for the next issue!

+ Ask a question

