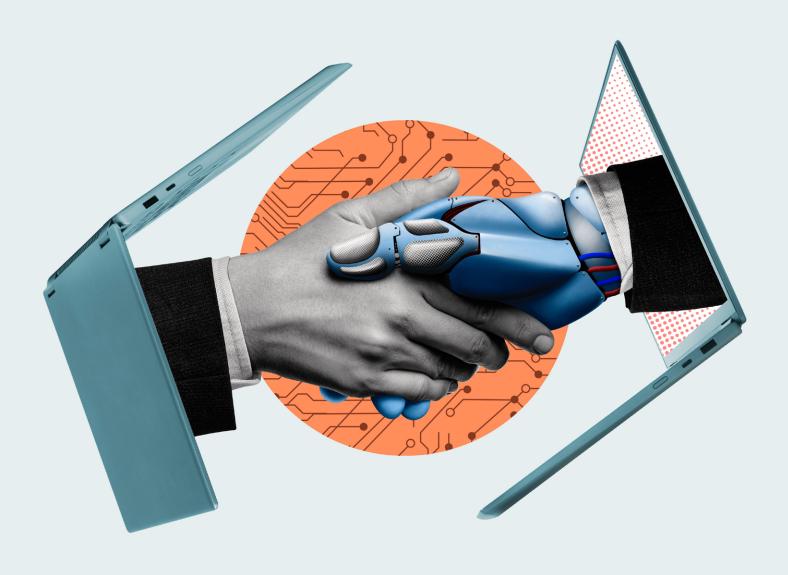


SPECIAL REPORT

Future of AI 2.0

Al is revolutionising industries and reshaping society as we know it. This report examines artificial intelligence's growing influence across various sectors, highlighting its role in job creation, societal impact and the evolving employment landscape.



Contents

Trump and the future of Al regulation Murad Ahmed	3
Singapore sets out Al's role in retooling the city-state's economy Geoff Dyer	4
AI, politics and the battle against misinformation Javier Espinoza	5
Why it is too soon to call the hype on Al's productivity promise John Thornhill	9
Employers look to Al tools to plug skills gap and retain staff Bethan Staton	11
The impact of GenAl on work and society Madhumita Murgia	13



Trump and the future of Al regulation

New Jersey's governor Phil Murphy discusses his state's tech landscape and prospects under Donald Trump's second presidential term.

Murad Ahmed

The Financial Times' Future of AI summit hosted Phil Murphy, the Democratic governor of New Jersey, two days after Donald Trump's sweeping election to a second term in the White House. He spoke to Murad Ahmed, the FT's technology news editor, on his state's business and tech landscape and the likely impact of a second Trump presidency on AI regulation.

Watch Now



In the workforce in AI we're seeing real upskill opportunities. I think we're leading the nation in that respect.



Singapore sets out Al's role in retooling the city-state's economy

Josephine Teo, digital development minister, explains how the country is addressing the technology's promise and risks.

Geoff Dyer

The Financial Times' Future of AI summit opened on November 6 with Josephine Teo, Singapore's minister for digital development and information, talking to the FT's analysis editor Geoff Dyer about Singapore's AI strategy. They discussed how the country is navigating the technology's promise and risks, and the implications of Donald Trump's election to a second presidential term in the White House.

Watch Now



When we think about AI, we think about its' potential to raise productivity, for precision and also greater personalisation.

AI, politics and the battle against misinformation

Discussion of the political impact of artificial intelligence from the FT's Future of AI summit.

Javier Espinoza

The Financial Times held a Future of Al summit in London on November 6-7. Below we publish an edited transcript of a conversation about Al, politics and the battle against misinformation between Javier Espinoza, the FT's EU correspondent covering competition and digital policy, and Elizabeth Dubois, professor at the Centre for Law, Technology and Society at the University of Ottawa.

Elizabeth Dubois: I research the political uses of new technology, so that includes AI, but also social media and search engines and all kinds of other communication technologies that have been infiltrating our electoral systems. And so, recently, I wrote a report looking at AI uses in Canadian politics. But, as you've mentioned, I've obviously been following the US election to see what's on the cusp—and what we can expect in others coming forward.

Javier Espinoza: And it's the perfect timing, I think, for our conversation. Today, we have fresh news and, apart from Trump being re-elected... Elon Musk has emerged, in my view, as the other big personality, character, player that has influence. I don't know to what degree, but he has been a player in this election like we have not seen before — also, with X [formerly Twitter] as a platform to help. I don't know how many of you are on X, I know that the numbers are dwindling, but the algorithm in my X profile is as if I'm a Republican. What are your thoughts on this?

ED: It's a really interesting example because people with a lot of money have had a lot of influence in US politics for a long time. That's not new. And social media companies being this controller of information, they decide what to incentivise... what to prioritise in your feed. That's also not new. But the combination of those things has really played out in a way that I don't think we were fully prepared for or fully expected.

You mentioned your feed looks like you are a Republican. And we know that that's the case in a lot of people's feeds — even though there are roughly equal numbers of Democrats and Republicans that we're reporting through surveys to be using those tools. So it's really interesting to see the power of those algorithms. It really shows that our information environment is controlled by these systems, and sometimes by particular people when they take over a large company, for example.

JE: And do you think we're just learning about the effects that X and Musk have had on this election? Do you think that it's about the number of people that he managed to reach through the platform, or is it about mobilising the ones that are already converted? What are your thoughts on... the use of this platform and also misinformation?



ED: Yeah, I think that X is an example of the larger kind of misinformation conversation, where a lot of the most effective misinformation and disinformation right now is actually about mobilising particular communities and convincing people in specific groups to believe one thing or another. It's not, at this point, as much about creating a mass misunderstanding of reality, but rather getting certain people who are highly active, who have a loud voice, to be sharing this information and resharing it over and over.

JE: I was having a discussion just earlier this morning with someone from the UK regulatory part of the government who was saying that, in their research, they have noticed that people might be seeking out exposure to deep fakes or to misinformation on purpose and excluding the verifiable... highly sophisticated information that the Financial Times and other media outlets are producing every day. Have you picked this up in your research?

ED: Yeah. So one of the things about disinformation research is we really think everyone's going to want true content, right? If we just have enough high quality content, it'll be fine. But the reality is people like to be entertained. People like to feel community. People like to have their ideas supported and reinforced. So there's a bunch of reasons that people are going to intentionally choose or just not kind of question disinformation.

JE: And I guess this sort of amplifies the use and the efficiency that we're talking about in terms of X. But, moving beyond X and the elections today, can you...flesh out some of the ways that you've identified people, agents or countries are using misinformation, and playing with algorithms?

ED: Yeah. So, when we're thinking about Al and disinformation, the immediate idea is 'Oh, it's the deepfakes'. And, absolutely, deepfakes are happening. We have seen examples, even in this US election. But Al use goes beyond that. The thing that we've seen emerging is people making use of generative Al tools like ChatGPT as a search engine, and we know that those tools often hallucinate, often produce information that has inaccuracies in it or that lacks contextual information.

So you end up with often 'true' misinformation. There isn't an intent to harm necessarily, but nevertheless, people are being sent to polling stations on the wrong day, as an example.

JE: Wow. That's quite shocking to hear. In your research, what counts as AI in elections? Give us a little bit more...

ED: There's a lot of political softwares that embed AI technologies into their systems to help a campaign better target, or better profile, potential voters — and people to not pay attention to.



We also have examples of AI being used for translation or creating robocalls to make it easier to reach greater [numbers of] people, which could be good — we could see that is a very helpful democratic thing if you're engaging communities that speak particular languages that maybe no candidates speak. But it can also be very deceptive and confusing for people.

And, then, we have this whole group of conversational agents or spoken bots that we're starting to see emerge. In the last Mexican presidential election, for example, there was a presidential candidate who created an Al-powered "spokesbot" to literally be a spokesperson for her and her campaign. And that really changes the landscape of information.

JE: How effective was that? Was the candidate elected as a result?

ED: The candidate was not elected. With all of these kinds of tools, it's going to be really hard to say that Al was the thing that gets someone elected or doesn't get someone elected. There are so many different versions of these kinds of tools, and they're embedded into really complex campaign structures.

JE: But what we do know is it is changing the way that we can interact with political candidates. Do you think - and I know that we have to do the research but let's speculate a little bit ... so we can ... at least think about these things ... I mean, we're talking about AI now but ... the Brexit vote arguably was also influenced by social media, and the outcome. Do you think that ... we are seeing outcomes in elections that we wouldn't have, if we didn't have these new emerging technologies or ways of disseminating misinformation?

ED: There's absolutely no denying the fact that technology impacts elections and the way campaigns are run. It's really hard to tease apart what is the main thing that changed the result of an election. But it is very clear that the way these new technologies are being integrated into campaigns changes how campaigns run. It changes how journalists report on campaigns, and it changes how the public interacts with the information that comes out of those systems. So absolutely, we're seeing impacts now. Does mis- or disinformation impact elections to the point where we can't trust the results or question the integrity? I think that, so far, what we've seen, particularly in the recent US election, is that Al, in terms of its deceptive ability and the way it's being used is not having the kind of impacts or the kind of disordering effects that we initially expected.

But that doesn't mean that it's not going to change as these tools evolve and are integrated into our daily lives.

Audience question: What more do you think the platform owners themselves can do to combat misinformation and disinformation?

ED: I'll start first with AI and particularly generative AI tools. I think there needs to be very clear safeguards built into the system so that it is not able to hallucinate or offer inaccurate information or, contextualised information, particularly when it's relating to how people can vote, and when they should vote, and who's running in their elections. Those are really essential pieces of information that will undermine the integrity of an election.

Then we go to the larger question of mis- and disinformation being spread across all kinds of social media and search, and that's a much more tricky one. I think one option is to have increased transparency and clarity on how prioritisation and deprioritisation algorithms work. Let's make sure there are trust and safety teams that these companies support and make use of, to make sure that when potentially harmful information is being spread across those platforms, they're actually responding to it.

I also think that, at some point, there may need to be more substantial governmental regulation coming in, because we know that these platforms each make individual choices, and that the change in leadership in one of these organisations can drastically shift the information environment very quickly, which — in the context of an actual election campaign — could be really risky.

Audience question: As we've seen in the US election, in states like Georgia, we have seen genuine disruption... people being discouraged to vote. And that has had a serious effect. Have you got any general comments about how we can go further to minimise and mitigate that?

ED: In terms of... Georgia, I would take it even broader and say, looking at the US election and potential impacts on people's ability to vote, we know that it extends beyond the uses of AI. And there are electoral systems which make it difficult for people living abroad to get ballots in time, as an example. There's a variety of things that I think come into play when we're thinking about whether or not people were informed enough to get their vote cast. That's not something that's brand new. But it is something that...misand disinformation can be used to exacerbate because information can travel so quickly. With AI in so many different formats online, it can be really hard to track what is true and know how to execute the next steps.

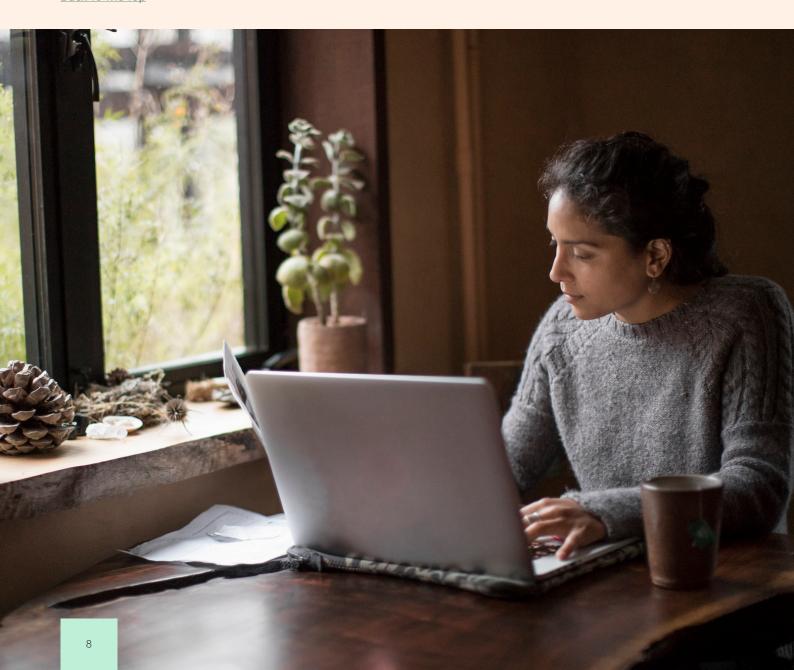
Audience question: The algorithms in social media, they reward engagement, right? And, a lot of times, there's a bias in humans where they are more drawn to negative, hateful, provocative content. Therefore, the algorithms, like social networks, can just say: 'Oh, we're just we're just repeating what people want to see'. And so politicians that kind of exploit negativity and hate benefit from that. Do you think that the actual algorithms themselves need to be regulated to protect against that?

ED: It's a great point. It makes me think about the research that's been done on attack ads. Political attack ads are known to be very effective at making people not trust or not want to vote for whoever is being attacked. But there's a rebound effect where whoever created the attack also takes a hit in the polls. So that has been a bit of a natural deterrent to using too much of that sort of negative campaigning.

But what we see in online systems is that it's a lot easier for political campaigns to distance themselves from those attacks and from those kinds of fear-based approaches. So you end up being able to undermine your opponent without necessarily taking the hit yourself.

It can be exacerbated again by different kinds of generative AI tools, the social media algorithms that are amplifying it. So, should the algorithms themselves be regulated? I don't know that we necessarily want a situation where every platform has to comply with a particular kind of prioritisation, for both business reasons and kind of access to information reasons. But I do think we need a lot more transparency in how those work, and we need additional options so that people can choose different kinds of curators of their information.

Back to the top



Why it is too soon to call the hype on Al's productivity promise

History shows it can take decades for new technologies to deliver their full economic potential.

John Thornhill

Even the smartest experts have a hard time predicting the future of technology. Consider the example of Bob Metcalfe, the inventor of Ethernet who, in 1995, boldly forecast that the internet would experience a catastrophic collapse — or a "gigalapse" — the following year.

But, when he got it wrong, Metcalfe literally ate his own words. To chants of "Eat, baby, eat!" at a tech industry event, Metcalfe ripped up a copy of his future-gazing InfoWorld column, fed it into a blender, and consumed the resultant pulp.

Metcalfe's unhappy experience — accepted with good grace and humility — is one of dozens of examples of erroneous predictions contained in the illuminating online resource that is the Pessimists Archive. Spanning the invention of the camera, electricity, aeroplanes, television and the computer, the archive records the many fanciful ways in which successive generations of technological experts have been dead wrong.

It is worth browsing the archive when considering the torrent of predictions about the wonder technology of our age: artificial intelligence.

The only certain prediction is that the vast majority of these predictions will be overblown. Those optimists who forecast that AI will imminently usher in a glorious new era of radical abundance seem likely to be disappointed.

But those pessimists who predict that AI will soon lead to human extinction are no less likely to be wrong. Then again, no one will be around to congratulate them if they are right.

With AI, it is perhaps easier to establish the direction of travel than the speed of the journey. Just as the industrial revolution magnified brawn, so the cognitive revolution is magnifying brain. Al is best viewed as the latest general-purpose technology that can be applied to an infinite number of uses, says Arkady Volozh, founder of the Amsterdam-based start-up Nebius, which builds Al infrastructure for model builders across a range of industries.

"Al is like electricity or computers or the internet," he says. "It is like a magic powder that can be used to improve everything. More and more functions will be automated more efficiently. Just as an excavator is more powerful than a person with a shovel, you can automate routine operations with Al."

However, it has often been the case with previous generalpurpose technologies, such as railways and electricity, that it can take decades before they boost productivity. New infrastructure has to be built. New ways of working have to be adopted. New products and services have to be launched.



New technologies can even produce an increase in unproductive work: how many pointless emails have you read today?



In the meantime, the adoption of new technologies can actually suppress productivity for a while as companies and their employees adapt to new ways of working. Indeed, new technologies can even produce an increase in unproductive work: how many pointless emails have you read today?

Some economists have described this phenomenon as a J-curve — as productivity first dips, before it later surges.

"General-purpose technologies, such as AI, enable and require significant complementary investments, including co-invention of new processes, products, business models and human capital," the economists Erik Brynjolfsson, Daniel Rock and Chad Syverson argue in a National Bureau of Economic Research paper. These complementary investments are often poorly captured in the official economics statistics and can take a long time to show up in higher productivity growth.

Zooming out even further, it may be wrong to talk about AI as a separate revolution rather than as a continuation of the information technology revolution that began in the 1970s. According to an essay this year by the economic historian Carlota Perez: "A revolutionary technology is not the same thing as a technological revolution."

In her 2002 book Technological Revolutions and Financial Capital, Perez identified five great technological transformations, beginning with a wave of creative destruction followed by a mass diffusion of innovation and a golden age of economic growth. This pattern has periodically repeated itself: starting with the Industrial Revolution in the 1770s; followed by the steam and railway age of the 1830s; the electricity and engineering age of the 1870s; the mass production era of the 1910s; and our own current IT revolution.

All of these technological revolutions have been accompanied by transformations of government and society, resulting in the creation of new institutions, such as trade unions, regulatory agencies and welfare states, to help manage tumultuous change.

Now, in Perez's view, we are only just beginning to imagine the institutions needed to deal with our current IT revolution and to counter economic inequality, autocratic populism and climate-related disasters. "Changing this broader political-economy context has become the most urgent task of our time," she argued earlier this year.

Designing appropriate new institutions will be a serious challenge — even with the help of AI.



66

A revolutionary technology is not the same thing as a technological revolution.

Employers look to AI tools to plug skills gap and retain staff

Technology can help boost corporate productivity and improve employees' career prospects.

Bethan Staton

Concerns about artificial intelligence's disruptive effects on the workplace often dominate discussions about how the emerging technology will impact the labour market.

Much commentary on the topic veers from bleak predictions of the destruction of jobs and outmoding of traditional skills to celebrations of the fortunes on offer to those who can unleash AI to boost performance.

However, for some employers and educators, AI is already helping to smooth out the acquisition of skills, and to improve existing jobs. They say the technology can help organisations assess worker skills, plan for emerging needs and train their staff — boosting corporate productivity and staff career prospects.

"What we've found is that one of the best ways to learn about AI is to use AI," says Jim Swanson, executive vice-president and chief information officer at Johnson & Johnson.

The pharmaceutical company uses an Al-driven process called "skills inference" to assess and plan across its workforce, in ways that would not be possible manually. "It's proving to be an important asset in helping us understand and enhance our workforce capabilities," Swanson says.

DHL, the international delivery company, uses AI to compare the skills staff have and those needed in open positions. Through its "career marketplace", staff can be directed to the right training, to advance their careers more effectively, and managers can be supported to fill empty positions.

This use of AI encourages internal hiring, which is less expensive and quicker than external hiring, explains DHL's Ralph Wiechers, executive vice-president for human resources. It also means candidates are more likely to be a good fit.

Al has further applications in identifying and creating training materials for new skills quickly — ideal when business needs are evolving rapidly. "For an organisation to be adaptive... to get the right skills, it needs to be automated, compared to in the past where you could prescribe a training pattern that would remain stable," Wiechers says.

Many companies using AI in their workforce management infer skills using data generated from across the organisation — for example, existing job titles, the work staff do, activity on technology, and supervisor reports.

At J&J, a dedicated team developed a company-specific skills taxonomy with 41 "future-ready" skills, such as data management or process automation. It then trained AI to identify where these skills existed in the organisation, based on workers' previous experience, roles and current positions. Workforce management systems, updated by employers and managers, create a data set to train AI models to assess skills and evaluate them on a proficiency level from zero (no skill detected) to five (thought leadership).



Our learners... don't just want to read or watch training materials; they want to be an active participant.

MICHAEL WYNN BANK OF AMERICA



In addition, AI tailors recommendations for learning and development, too, suggesting to users the courses they should take to further their careers with the company. Mapping the organisation's skills in this way "helps our leaders make informed decisions about hiring, retention, and talent movement", says Swanson.

Our learners...don't just want to read or watch training materials; they want to be an active participant. Michael Wynn, Bank of America

Other organisations are using AI to improve training itself — through simulations, or by giving more people access to personalised feedback.

At Bank of America, employees can use AI to practise difficult conversations — discussing sensitive issues with clients, for example. By trying out approaches with a simulation, staff can "practise real-world interactions in a totally safe environment", says Michael Wynn, senior vice-president for innovation and learning technology.

"It gives them the opportunity to build some confidence, test out their skills... that traditional methods don't allow them to do," Wynn says. Managers can see where staff are improving faster by responding to the feedback the AI gives them, and also where staff struggle — suggesting areas educators need to focus on.

"One thing that really helped us navigate through the labyrinth of technology was understanding that our learners don't want to learn the same way," Wynn adds. "They don't just want to read or watch training materials; they want to be an active participant."

Nick van der Meulen, an MIT scientist who focuses on supporting organisations with technological change, says Al automation allows employers to assess more skills, potentially with greater accuracy than existing approaches.

"You can give people insight into how their skills stack up...you can say this is the level you need to be for a specific role, and this is how you can get there," says van der Meulen. "You cannot do that over 80 skills through active testing, it would be too costly."

But, while the technology has "tremendous promise", van der Meulen is also aware of its limits — and the fact that developing the infrastructure requires work.

Similar warnings from others in the field underline the idea that, despite the hype, turning assessments and decisions to artificial intelligence can still be fraught. Skills assessments are only as good as the data they are trained on, and human input is crucial for a system to work.

"You need to have a definition [of skills] that's easy to understand and useful for an algorithm," says van der Meulen. He concedes Al may not be "100 per cent accurate", and problems can arise, for example, if employees "don't go through the effort of making sure their digital footprint is complete".

That means, in most cases, it should be recognised as a rough assessment of skills that staff and managers can correct and add to, rather than something definitive.

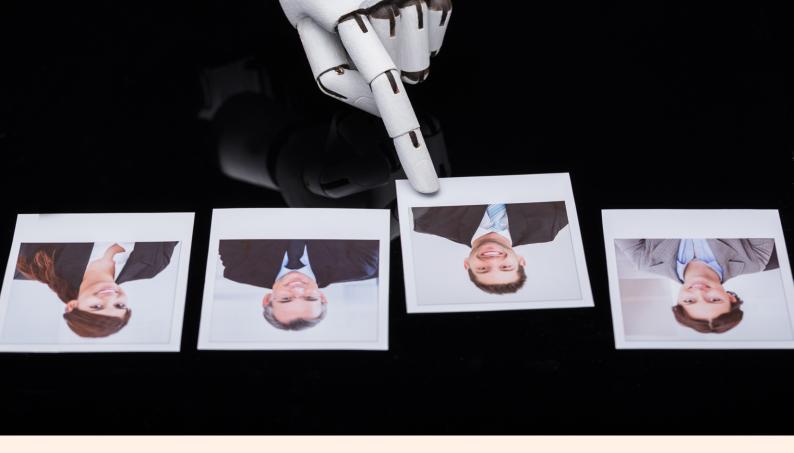
High-stakes evaluation and growth decisions are best suited to remain under human supervision. Nimmi Patel, Tech UK

To overcome this problem, J&J allows staff to edit their skills history and add information — goals, interests, certifications — that may not be automatically in the data sets, to ensure that the AI has as much information to draw on as possible.

These limitations mean caution is still advised when using the technology, says Nimmi Patel, head of skills, talent and diversity at Tech UK, the British trade body. "Al can process large amounts of data very fast. But algorithm evaluation as it exists today could struggle to understand the nuances of individual growth and development trajectories."

She believes "high-stakes evaluation and growth decisions are best suited to remain under human supervision" through a hybrid approach.

At J&J, Swanson stresses that AI skills assessments are not used in day-to-day performance management. At both J&J and DHL, participation is optional. But early figures show that AI platforms have been popular at both organisations. "It's about understanding the big picture of our organisation's skills and helping people know exactly where they should focus their learning," says Swanson.



The Impact of GenAI on Work and Society

A Future of AI pre-summit webinar.

Madhumita Murgia

Al's opportunities:

Enhancing Productivity and Innovation:

Al automates repetitive tasks, improves decision-making, and fosters creativity by enabling new business models, industries, and artistic expressions.

Personalisation and Inclusivity:

Al delivers tailored experiences in education, customer service, and workplace tools while making technology more accessible and equitable for underserved communities.

Advancing Global Problem-Solving:

From healthcare breakthroughs to climate solutions, Al accelerates research, drives collaboration, and helps tackle complex global challenges for societal benefit.

Al's risks:

Workplace and Societal Disruption:

Al could displace jobs, widen skill gaps, and create inequities, while also replacing human interactions with virtual relationships.

Privacy and Ethical Risks:

Unchecked AI development may lead to mass surveillance, manipulation, and opaque decision-making, undermining trust and autonomy.

Regulation and Governance Challenges:

Policymaking struggles to keep pace with Al's rapid evolution, risking misuse and long-term consequences without proper oversight.

Back to the top

Achieve more with an FT Professional Subscription

In many organisations, strategic plans are failing because they ignore the most pivotal part of the business landscape: the market.

FT Professional Subscriptions equip over 7,000 organisations globally with trusted Financial Times journalism and dedicated tools that help our customers:



Inform decision making with a trusted source of business intelligence



Improve client knowledge using broad sector coverage and deep analysis



Identify risks and opportunities by leveraging global, connected reporting

An FT Professional Subscription delivers the commentary and analysis organisations need, along with the tools and services to make that intelligence actionable:



Premium access to FT.com

Access to all <u>FT.com</u> journalism at your fingertips, meaning your organisation won't miss a thing



Workflow integration and apps

The FT on the systems and devices your organisation use most. Keep informed with mobile apps, a Teams integration and availability on platforms like Bloomberg



Professional-only tools and features

Use exclusive features like FT Workspace to make FT journalism more useful for work or learning



Enhanced support and services

Optimise use of the FT in your organisation with the help of your dedicated Customer Success Manager, and tools to manage your organisation's subscription effectively

Reach out to our sales team if you're interested in learning more about FT Professional Subscriptions.