

AI may accelerate job losses and carbon emissions, report finds

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Breakthroughs in artificial intelligence could lead to short-term increases in unemployment, a rise in carbon emissions and leave regulators trailing in the wake of technological advances, according to an international panel of experts. The inaugural report on the safety of advanced AI, inspired by the Intergovernmental Panel on Climate Change, raised a number of concerns about a technology which has shot up the political and regulatory agenda after leaps forward such as the ChatGPT chatbot. The panel behind the study, chaired by the leading computer scientist Yoshua Bengio, acknowledges there is far from universal agreement about the technology. "AI has tremendous potential to change our lives for the better, but it also poses risks of harm," said Bengio. Bengio was commissioned by the UK government to preside over the report, which was announced at last year's global AI safety summit at Bletchley Park, with the panel members nominated by 30 countries as well as the EU and UN. Released in advance of next week's successor AI summit in Seoul – where Rishi Sunak will co-chair the opening session by video link – the report focuses on general-purpose AI, the term for computer systems that can perform a wide variety of tasks typically associated with intelligent beings. Broaching one of the most sensitive aspects of the technology's impact, the panel says AI could have a "significant impact" on the labour market by allowing the automation of a number of tasks. As well as ChatGPT, a text-generating tool that is also highly adept at writing software code, recent advances have brought products that can produce highly convincing video, image and audio from simple hand-typed prompts – potentially threatening a host of professions. The report says many people could lose their jobs, but adds that some economists believe redundancies could be offset by the creation of new roles due to the technology and demand in non-automated sectors. It also cites an International Monetary Fund paper that says 60% of jobs in advanced economies are exposed to AI, although that could result in a range of outcomes – from automating substantial parts of someone's job to complementing it. However, the gap between workers learning new skills or moving location for fresh jobs could still result in short-term unemployment. "Labour market frictions, such as the time needed for workers to learn new skills or relocate for new jobs, could cause unemployment in the short run even if overall labour demand remained unchanged," it says. The report also raises environmental concerns by flagging the growing use of datacentres to train and operate the AI models that underpin products like ChatGPT. "This trend might continue, potentially leading to strongly increasing CO2 emissions," the report says, adding that it could make AI the largest contributor to datacentre electricity consumption in the near future. The Seoul summit is taking place against a backdrop of increased political and regulatory activity related to AI in the UK, US and EU. The panel warns that regulators could be caught out by the rapid pace of change, referring to the "potential

disparity between the pace of technological progress and the pace of a regulatory response". Other potential risks raised in the report include concerns around bias, reflected by the fact that widely used AI models are trained on data that "disproportionately represents western cultures", as well as fears over losing control of AI systems. The report concludes that the near future around general purpose AI is "uncertain", with "very positive" and "very negative" outcomes, and the decisions of societies and governments will play a key role in how the technology progresses.