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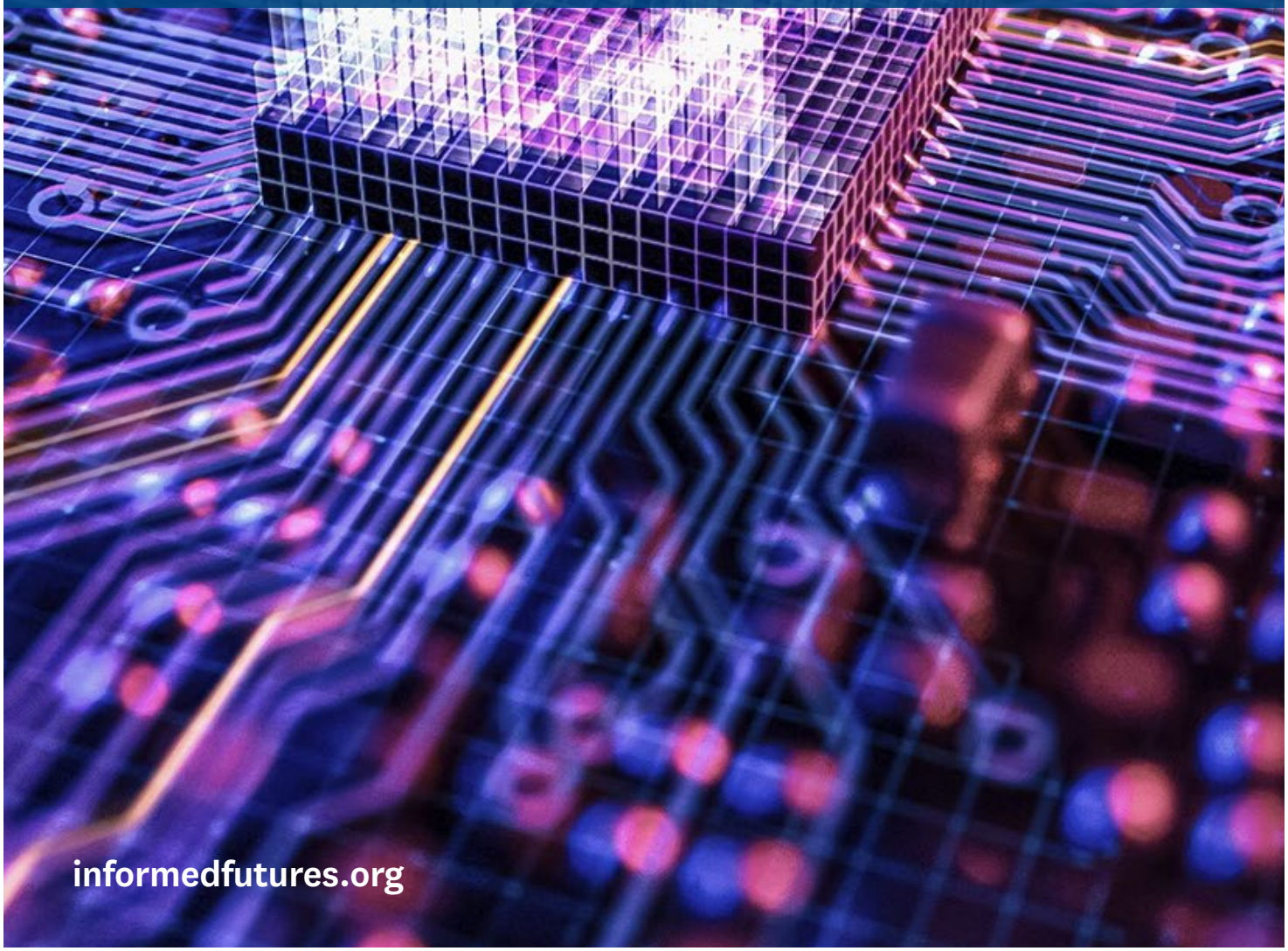
KOI TŪ:
THE CENTRE FOR
INFORMED FUTURES

Artificial intelligence

Long-term opportunities and challenges for Aotearoa New Zealand

Briefing for the incoming Prime Minister and Government

October 2023



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Introduction

Aotearoa New Zealand is in the early stages of considering its strategy for artificial intelligence (AI), the use of which is exploding. It is important all aspects of the technology be considered including the opportunities to boost productivity and the implications for society and communities.

Key points

- AI promises to boost economic growth and productivity through improved decision-making and optimised allocation of resources.
- AI's risks include ethical and moral challenges and concerns about its effects on human development, democracy, and implications for data privacy and the potential for misuse.
- AI has the potential to be more disruptive than earlier technological changes because of its ubiquity and possible unintended consequences.
- A balance must be struck between the direct interests of commercial users of AI, the State and society.
- Without technology sovereignty New Zealand needs to align its AI strategy with international partners to maintain interoperability and the capacity to trade.
- Advanced AI could significantly improve healthcare by accelerating development of new drugs and treatments and improving diagnosis speed and accuracy.
- AI can aid education by personalising learning and providing students with real-time feedback.
- Consideration must be given to the likelihood of job displacement through AI-driven automation.
- Advanced AI poses geostrategic challenges that could affect countries' capacity to predict and respond to crises and hinder co-operation on important global issues.
- AI could put new and more sophisticated cyberwarfare capabilities into the hands of state and non-state actors with significant economic implications.
- Generative AI is likely to lead to more sophisticated forms of disinformation endangering democracy, institutional and social trust and undermining social cohesion.
- Inequality could be exacerbated between the global AI haves and have-nots with implications for regional security including in the Pacific.
- AI has the potential to help mitigate the effects of climate change but also to exacerbate it by increasing energy consumption.
- The international science and non-governmental system are working to foster responsible AI development and use by giving a platform to the neutral, independent and balanced voices of transdisciplinary experts on the complex choices ahead.
- This will help New Zealand navigate the complexities of indigenous data sovereignty, privacy, social licence and trust.

Context

AI's sweeping implications can be grouped into the following categories:

- Wellbeing (for individuals or self, society and social life, civic life);
- Health, especially mental health of susceptible groups such as young people;
- Agency, ethical and equity issues;
- Trust and democracy;
- Trade and economy;
- Environmental;
- Geostrategic and geopolitical issues.

A further category for consideration is the technology itself, the effects of which will change as it matures. This calls for ongoing assessment of system characteristics, design and use.

AI has much positive potential for improving healthcare, education and productivity, for example. However, it could also have a negative effect on wellbeing through job displacement, increased inequality and social isolation and reduced privacy.

AI could lift health outcomes in several ways, such as by improving diagnosis and treatment, preventing disease and improving patient care. On the downside it could worsen inequality as people who have access to AI-driven healthcare technologies will have an advantage over those who do not. This could lead to a widening gap in health outcomes between different groups of people.

AI can be used to improve access to opportunities for disadvantaged groups. For example, it can be used to develop personalised learning tools to help students from low-income families succeed in school. AI can also be used to develop new financial services and products to help people from poorer families build wealth.

It can be used to promote social justice by helping to solve systemic problems such as poverty, discrimination and climate change. AI-based tools could help police and other agencies identify and prevent racial profiling. And AI has potential in the development of technologies to help reduce greenhouse-gas emissions.

If used to automate low-paid jobs, however, it could exacerbate inequality. Similarly, equality could suffer if AI-based technologies make their way only into the hands of the wealthy or people from privileged groups.

There are several uses of AI that could directly benefit individuals and society, for example, in climate forecasting and modelling, waste reduction by optimising manufacturing processes and making industries such as transportation and infrastructure more energy-efficient.

But AI systems consume a lot of energy, potentially increasing greenhouse-gas emissions. Consideration is being given to how to train and run the systems sustainably but carbon-neutral AI is some way off.

The technology has the potential to make government more transparent and accountable, increase civic engagement and strengthen democracy. However, AI also poses challenges such as the risk of undermining trust in government, widening social divisions and threatening democratic values.

It could improve international co-operation, promote economic development, strengthen international institutions, reduce conflict and instability and promote democracy and human rights. However, it could also fuel a new arms race exacerbating geopolitical tensions, create new forms of cyberwarfare, undermine the norms and agreements of the international rules-based order, increase surveillance and social control and worsen inequality.

We should apply the lessons learnt from other technology leaps as we develop AI policies, regulations and governance. The evolution of the internet has shown the importance of open standards and decentralised control. Nuclear energy development illustrates the importance of safety and security and regulation of the deployment of nuclear technology. The biotechnology and pharmaceutical sectors show the way in formulation of ethical rules that ensure their products are used for good and not for harm.

While high-level principles for AI deployment have emerged from such bodies as the OECD and UNESCO, how they are transferred into an effective regulatory or governance regime within or beyond national boundaries isn't clear. AI's speed of development and its release often in a poorly tested form stretches traditional regulatory approaches as the internet and social media did before it. Over the past year Koi Tū has led a global discourse with the aim of developing a process to fill the ontological gap between high-level principles and attempts at regulation (Gluckman & Sridhar, 2023).

It is important governments and industries work together to mitigate the risks of AI and to ensure the technology is used to benefit all equitably. Working with our partners will be key in developing these approaches.

Actions for consideration

- **Develop a national and whole-of-government AI strategy that considers all the technology's positive and negative potential.**
- **Develop a pluralistic and independent oversight group encompassing ethics, social scholars and technology experts to assist government in addressing the inevitable issues that will arise.**
- **Work in partnership with other countries to ensure our strategy aligns with international exemplars, best practice and regulations.**
- **Undertake a stocktake of government agencies to find where AI tools and solutions could make them more efficient.**
- **Facilitate public consultation with stakeholder groups, vulnerable communities and consumers to understand the benefits and risks of AI.**
- **Develop a national adaptive framework and mitigation plan for high-risk applications of AI.**
- **Foster a public conversation on social licence for New Zealand's positive use of AI.**
- **Develop an AI incident reporting mechanism similar to that for cyber-incidence logging.**

References

Gluckman, P., & Sridhar, H. (2023). *A framework for evaluating rapidly developing digital and related technologies*. International Science Council.

Key contact

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Koi Tū: The Centre for Informed Futures is a research centre and an independent, non-partisan think tank at Waipapa Taumata Rau, University of Auckland with associate members across New Zealand and the world.

We address critical long-term national and global challenges arising from rapid and far-reaching social, economic, technological, and environmental change.

Our name, Koi Tū, was gifted by Ngāti Whātua Ōrākei. It means 'the sharp end of the spear'. Like our namesake, Koi Tū aims to get to the heart of longterm issues challenging our future.

This document was developed as part of a comprehensive briefing to the incoming prime minister and government. The full document is available informedfutures.org/briefing-to-incoming-government-2023

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We engage with people and organisations focused on the long-term development of New Zealand, and on core issues where trustworthy and robust analysis can make a real difference.

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