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The Cognitive Computing Continuum Policy Landscape: New Zealand

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Executive Summary

New Zealand is a small but developed economy, and was the first country to adopt global association to Horizon Europe. It has already developed significant e-government capabilities and is moving towards a public cloud strategy for future integration, and promotes AI adoption under a light touch regulatory regime. It is currently paying limited attention to the broader cognitive computing continuum and, other than some concern regarding Māori indigenous rights question, seems to be paying little attention to questions of digital sovereignty.

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Background

New Zealand's Geopolitical Situation

New Zealand, also known as Aotearoa in the indigenous Māori language, is a former British Colony in the South Pacific. Unlike many colonised nations, New Zealand's colonisation was based on a treaty (the Treaty of Waitangi, or Te Tiriti o Waitangi in the Māori language) between the tribal chiefs and the British Crown, written in both English and the Māori language. This does not mean that colonial abuses did not take place, or that the post-colonial constitutional order of New Zealand is free from issues between the descendants of the early settlers, the indigenous population and other immigrants since. It is a member of the British Commonwealth and retains the UK monarch as head of state, represented by a Governor-General. It is a constitutional monarchy although like the UK its constitution is embedded in multiple sources (some acts of the NZ Parliament, the Treaty of Waitangi, and various judicial precedents).

As a close neighbour of another former British colony, Australia, it has strong trade and immigration ties with that much larger (in land area and population) neighbour. It also retains some significant trade links with the former colonial power. It is a small but "developed" economy around 50th in the world by nominal GDP, and around 25th by per-capita GDP (IMF Data). Historically its has been focussed on agricultural (food and fibre) exports, for example there remain more sheep than people on its two islands (Graham-McLay, 2025). However, it has a highly urbanised population with around 85% of the population of just over 5 million living in urban areas, including over 50% in the six largest urban centres. In recent years it has, along with Australia, sought to improve trade links around the Asia-Pacific region. However, it retains strong diplomatic, military and trade links with the UK. It has a free trade agreement with the EU which came into force in 2024. It is also an associated country to Horizon Europe, the first such "global" country to join the program under the new rules for association allowing non-European neighbour countries to associate. New Zealand has had a data protection adequacy decision (under which personal data may be transferred between the EU and New Zealand without special measures since the data protection laws are deemed equivalent in effect) since 2012 (first under the Data Protection Directive, reviewed and renewed under the GDPR).

New Zealand also has a Digital Economy Partnership Agreement with Chile, Singapore, Republic of Korea. Costa Rica will soon join the multilateral agreement while Canada, China and a number of other countries are also negotiating accession.

New Zealand's Digital Infrastructure

Internet availability and use in New Zealand is high, at over 95% of the population having access to fixed and/or mobile broadband Internet connectivity. The Ultra-Fast Broadband initiative has provided FTTB to over 75% of homes and offices (focussed on urban areas) (Kaczmarek, 2025).

E-government proposals and developments in New Zealand appeared as far back as the late 1990s as a priority. Although the central government developed information websites in the 1990s, there was concern both that business and citizen interactions with government (e.g. applying for licenses, paying taxes) were falling behind other countries, most notably the US, while regional and local government were failing to even develop suitable information resources (Deaking, Cave and Dillon, 2001). By 2010, only those New Zealand citizens who were younger and/or more technologically experienced used or wanted to use e-government systems, even simple informational website and even less so transactions such as tax payment. By 2020, however, the government was seen as "one of the world's most digitally

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advanced governments" (Dunne, 2020) with the cabinet including a "Minister for Digitising Government" (shared with related portfolios) seen as a very senior position.

B2C and B2B ecommerce are dominant in New Zealand, with Statista reporting levels of penetration over 85% for individuals using ecommerce at least once per year by 2023, for example, with the CoViD-19 pandemic (during which New Zealand imposed quite strong local movement lockdowns at times and maintained strong international travel restrictions) driving significant shifts towards B2C ecommerce which only partially reverted to in-person commerce later (NZ Post 2023).

New Zealand's Digital Policy Organisations

As noted above, there is a Minister for Digitising Government a cabinet member within the Department of Internal Affairs (DIA). Below that Minister they recently appointed a Government Chief Digital Officer (GCDO) whose bureau provides services across the government including development of AI, common contracts for service support, and development and deployment of standards for government online services, including the planned development of a common application (probably a smartphone app) for most or all business and citizen interactions with government.

The Ministry for Business. Innovation and Employment (MBIE) currently covers the telecommunications policy brief (which was previously part of the DIA) as well as overseeing the independent public research funding bodies and research institutes. The system of both research funding and of public research institutions are currently undergoing reorganisation. The new system being put in place will create a single funding body for all areas of research called Research Funding New Zealand (RFNZ), and merge/reorganisation existing public research organisations. The New Zealand Institute for Advanced Technology (NZIAT) will be the new institute which covers the cognitive computing continuum.

Policy Review

Government Cloud First Policy (2012-2023)

In 2012, as the next phase of improving both internal services and e-government, the Cloud First Policy was enacted which required government ministries and agencies to develop a cloud computing adoption policy for both internal and external facing digital operations. This led to the adoption of IaaS and TaaS as preferred options for hosting digital operations, with the continuation of some on-premises IT system. These systems were primarily what are usually called government cloud services, that is, services physically present on government premises, or physical portions of data centres (both physically located in New Zealand) which supported provision of cloud computing capabilities to the government. The management of these services could be privately contracted, or run in-house.

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Government Revised Cloud First Policy (2023-)

A revision of the Cloud First Policy (2023) dropped the IaaS option to push towards a Public Cloud usage in order to take advantage of economies of scale (physical and expertise) offered by external cloud providers (O'Neill, 2023). Under these new arrangements there are three authorised providers of cloud services to government ministries and agencies: Amazon Web Services (AWS), Microsoft Cloud, and Catalyst Cloud. Catalyst Cloud is a New Zealand company which runs data centres physically present in New Zealand. While both AWS and Microsoft are building data centres in New Zealand in order to compete for the portion of contracts with the government requiring data localisation (Craske, 2025; O'Neill, 2023). As noted by Daalder (2023) the issue of the US Cloud Act and similar digital sovereignty questions, are sometimes raised, but their importance is often dismissed by ministers as secondary to ensuring value for money and reliability of services.

Digital Sovereignty and Te Tiriti o Waitangi

Data about native Māori lands or people is regarded by many in the Māori community as a constituent part of their fundamental rights. These concerns are paid at least lip-service by government policies such as the Cloud First policy, and are actively promoted by Māori rights groups such as Ngā Toki Whakarururanga (2023), an NPO advocating for the upholding of Māori rights in trade treaties, including digital aspects. As noted in Daalder (2023), Māori concerns about data sovereignty appear to be answered with lip-service and empty consultations rather than solid action:

> Karaitiana Taiuru, a Māori data expert and long-time commentator on data sovereignty, said the new cloud policy looked like an improvement but was "still quite lacking in substance. I'm used to seeing these documents talking about consultation, and they'll do this and do that, but it usually never happens".

Digital Strategy for Aotearoa

The Digital Strategy for Aotearoa (2022) laid out a ten year plan for increased digital government services (of which the revised Cloud First Policy (2023) was a part) alongside inclusion for citizens by providing access and skills, and an expansion of the country's digital economy, including international trade in digital services. Following an election in October 2023 there was a change in government. Thus, although continuing with many of the government digitisation proposals from the Digital Strategy, the other parts seem to have been subsumed into general policies rather than continuing as a specific process (the annual update of the Digital Strategy envisaged in the original has never been released).

Smart City Policies

A number of municipalities, notably the capital, Wellington, as well as Christchurch and Hamilton, have local smart city strategies and deployments. These are not particularly well supported by central government, however, with a web search for "Smart City" on govt.nz sites featuring only local policies and announcements apart from one mention in an MBIE document about the use of digital twins as part of circular and bioeconomy developments.

AI Policy

The deployment of AI to improve the quality and cost effectiveness of public services is a key element in the digitisation of government strategy. Beyond that the current government promotes a "light touch" regulatory approach to AI, relying primarily on existing legislation such as data protection, other consumer rights, and human rights in general. The OECD "responsible AI principles" are prominent in government communication around AI. However, there is no AI Safety Institute, nor is one planned. An NPO, AI Safety Aotearoa, is all that exists.

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CONCLUSIONS

As a small and relatively geographically isolated country, although one with a developed economy, the government has limited resources and is constrained on issues such as digital sovereignty by the need for reliable and cost-effective services. Despite a local cloud infrastructure provider, AWS and Microsoft dominate the public sector cloud market. AWS, Google Cloud and Microsoft similarly seem to dominate the commercial cloud sector. At present the cognitive computing continuum does not seem to be a major focus for the government as a general concept, although increasing public and commercial cloud adoption and AI adoption are current policies. Limited attention is paid to digital sovereignty questions generally, although Māori indigenous rights issues sometimes increase the visibility of these questions.

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GLOSSARY

AWS: Amazon Web Services

DIA: Department of Internal Affairs

FTTB: Fibre to the Building. Internet fibre connectivity into each building.

GCDO: Government Chief Digital Officer

IaaS: Infrastructure-as-a-Service

MBIE: Ministry for Business. Innovation and Employment

NZIAT: New Zealand Institute for Advanced Technology

RFNZ: Research Funding New Zealand

TaaS: Telecommunications-as-a-Service

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