Draft Long-term Insights Briefing

Consultation document
May 2022

I pēhea tā mātau mahi |How we did this

In developing this Long-term Insights Briefing, we wanted to talk with New Zealanders about the potential of technology to create new opportunities for community participation in decision-making. However, while we were doing this work many communities have been rightly focussed on responding to the COVID-19 pandemic, and ongoing restrictions limited how much we could engage in valuable kanohi ki te kanohi, or face-to-face, discussions. Where possible, we turned to technology to help us meet people where it just wasn't feasible for us to gather in person.

It was also a busy time across government, with many long-term, future-focused initiatives competing for the public's attention. People told us that they'd like to be heard on the issues that matter to them – and not need to repeat the same message to different agencies.

With all that in mind, we undertook desktop research and reviewed existing engagement material and feedback. We developed scenarios about the future, based on our analysis of global and local trends. We talked with people from different communities about how they saw their future and their own aspirations for participation and decision-making. We made educated assumptions about the directions in which technology appears to be developing over the next ten years and the likely points of technology convergence. We matched these new technology opportunities with the aspirations people shared with us.

Then we thought, how might we support these aspirations and deal with the impact of these trends over the next decade? This briefing sets out our draft ideas and the strategic choices that lie before us. Because we are looking so far into the future, many of the issues we highlight will need further work in the years to come.

Our Briefing also has links to other Briefings currently being developed across government – particularly the Public Service Commission's exploration of "How can we better support public participation in government in the future?" and the Briefing being led by the Department of the Prime Minister and Cabinet and the Ministry of Foreign Affairs and Trade on behalf of the Security and Intelligence Board agencies, "Engaging an increasingly diverse Aotearoa New Zealand on national security risks, challenges and opportunities". Our briefings have a shared focus on the ways in which government, in partnership with others and on its own, can support public participation and involvement in decision-making at the central, local and community level.

Ngā Whakamihi | Acknowledgments

We would like to acknowledge all the people and organisations have helped get the briefing to this point. They have provided subject matter expertise, authentic community voices, and constructive feedback. Our final briefing will specify those that helped by way of thanks.

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Tēnā koutou katoa

Welcome to our draft Long-term Insights Briefing, which considers: *How can community participation and decision-making be better enabled by technology?*

Community participation and decision-making are at the heart of much of Te Tari Taiwhenua's mandate and mahi, playing a key role in how we serve and connect people, communities and government to build a safe, prosperous, respected nation.

Technology is changing how we work and the nature of our work. In this Briefing, we have challenged ourselves to consider what trends will impact on community participation and decision-making over the next 10-years and what might be possible through technology.

We are bringing together two integral pieces at Te Tari Taiwhenua – community participation and technology – and looking further out to consider how we can make a difference for New Zealanders.

The Briefing considers proven methods and initiatives at a national and international level that we want to expand on. It also reflects community perspectives on an ideal future state to ensure we're envisaging a way forward that works for all Aotearoa.

We've suggested examples of what could be done. In some cases, there's more work to do.

We think the opportunities are exciting. What do you think?

Ngā mihi nui

Paul James

Wāhanga 1: Ko te Horopaki
Section 1: Context

He Tīmatanga Kōrero | Introduction

For our first Long-term Insights Briefing, Te Tari Taiwhenua has chosen to explore this topic: *"How can community participation and decision-making be better enabled by technology?"* [1]

Our October 2021 consultation document[2] painted a picture of the ways in which people participate in their communities, and how communities participate in decision-making today.

What could this picture look like in 2032? We anticipate that new technology will change every element of our lives. Imagining this technology is challenging, given the pace of change and the unpredictability of the environment. In some cases, we don't yet have the language or concepts to describe the types of technology we will be using in ten years' time. In New Zealand, these technology shifts will be unfolding within the unique context of Te Tiriti o Waitangi.

There are some things we know hold true, and that we value, that we will take with us into this future – including Te Tiriti, foundational beliefs in a democratic society, privacy, safety, freedom of speech, and human rights – whether they exist in a physical or digital world.

We can assume that technology widely used by 2032 will be an extension of what exists today and what we see is starting to develop, such as the "metaverse."[3] In these virtual and blended physical/digital worlds people will be able to do many of the things they do in the physical world. Right now, many of the social norms, security, safety and ethics around these spaces are yet to be established.

We also expect many people's experience of the physical world will change, with what we see, touch and feel altered by things we can wear like smart watches or glasses, 3D printed wearables, and other forms of augmented reality.

We can make educated guesses at the opportunities that technology will create for community participation in decision-making. It is likely that technology could help to build new connections and engagement channels among communities, improve access for those who have been excluded, lighten the burden of administrative tasks, build new and better gathering spaces (online and offline), create faster feedback loops, and improve listening and consensus-building.

The potential for harm remains and could extend in an increasingly digital world. We have made educated guesses at how we might mitigate the impact of harms and build in protections to

safeguard people's privacy and keep them safe. And while technology may offer new ways to reduce inequity, we will also need to ensure people have equitable access to essential technology.

In this briefing we explore some of these possibilities, identify the strategic choices government could make as society steps into this future, and signal areas where further work will be needed.

He aha mātau i kōwhiri ai i tēnei kaupapa? | Why did we choose this topic?

Our focus at Te Tari Taiwhenua is on people and communities, and we believe there is important work to do in the coming decade around the real-world impact that technology has on people's lives. We anticipate that it will be important to continue to engage with people around technological innovations – to try to get ahead of some of the ethical questions we may face – so that we can take informed decisions about Aotearoa's technology futures.

Community and hapori can be defined through a range of factors including geography, shared interests, identity, and culture. When we talk about communities, we use this term broadly, recognising the special obligations of the Crown-Māori relationship enshrined in Te Tiriti o Waitangi and the special status of tangata whenua.

Dimensions of Community

This diagram shows the many facets that communities encompass, both for people and groups. Communities can be self-defining and self-determining. Within some groups and organisations, community often represents an aspect of identity that individuals choose to amplify in connection with others.
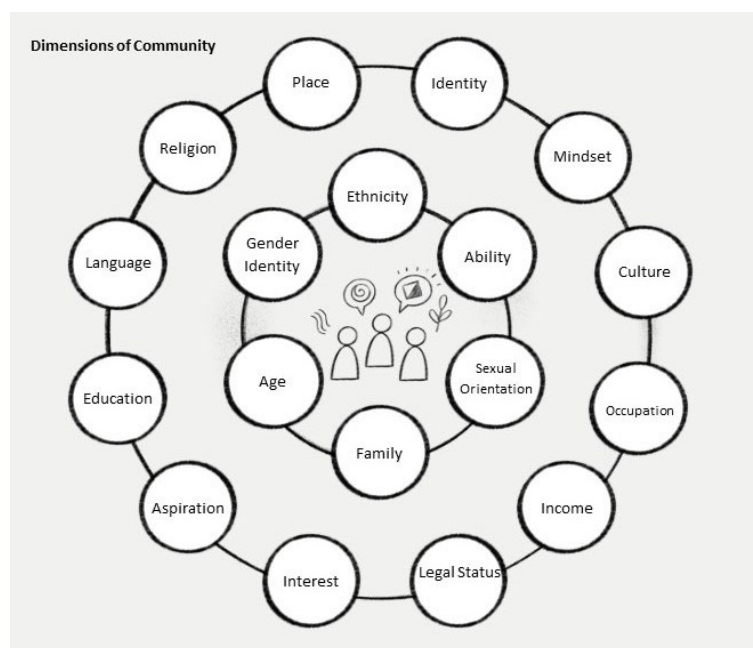
How do we define **community participation**? Participation can mean working in your community to help vulnerable people or taking part in a beach clean-up, a sporting event or a cultural fair. It might mean making a submission on your local council's plans for roading, or development – or helping to crowdsource ideas to solve a community challenge. It might look like a marae kāinga and hapū taking advantage of the many whānau, kuia and koroua who arrive home from afar for whānau, hapū or iwi events to canvass their ideas to help inform a marae and hapū submission on a government proposal, with many of the ideas playing out on the marae atea and in te reo Māori.

Participation is important for social cohesion[4,] community resilience and overall wellbeing. The more community voices are heard in decision-making, the better those solutions are likely to be.

And what do we mean by **decision-making**? This can cover anything from working out what your club's events for the year might be to voting at an AGM or casting a ballot in an election. It's about having your say in the issues that affect your community, whether at a hui, a town hall meeting or via a formal submission.

We face big questions as a society, and many of them are already being worked on across government. Greater participation in democratic processes will help decision-makers source more ideas from more people and build innovative thinking about our road ahead – and this helps build resilient communities that can better face future shocks. In the coming decade we imagine the landscape will continue to evolve and ongoing engagement is likely to be needed. This work will yield insights that will guide next steps for current and future governments.

The topic we've chosen sits at the intersection of many of our functions.[5] These include responsibility for, and policy advice on, local government, communities, and the government's use of digital technology. Our work with communities includes providing information, resources and advice and administering grant funding schemes.

We are supporting communities during a time of rapid change, and that rate of change is predicted to accelerate. Some communities are under threat from a variety of forces, including poverty and inequity. And while so many people work for the good of their communities, some do have antisocial agendas.

The Department is looking at ways the funding system can be improved to work more effectively with communities and lead to more equitable outcomes, including more flexible funding through community-led development funds and working with the Lottery Grants Board to evolve how lottery grants are distributed.

How the topic relates to DIA's responsibilities

- Digital Public Service
- Government Chief Digital Officer

Technology

Our briefing

- Libraries and archives
- Volunteering
- Lottery grants
- Charities
- Community support and resilience

Communities

Participation & decision making

- Local Government
- Ministerial services

It also has facilitated the formation of an Iwi Affiliation Data Group to help decide if we should be collecting iwi affiliation data as part of birth registration, which hasn't been done since 1961. The aim of the regular hui is to better understand the needs and expectations of Māori in collecting and sharing iwi affiliation data.

That means a key question for our briefing is, how can we support communities in the face of our future challenges? And how can we use the digital innovations coming our way to support communities to flourish?

Ko te wāhi nui ki te whai wāhitanga mai me te whakataunga take o Ngāi Māori | The importance of Māori participation and decision-making

Our topic is relevant for Māori on several levels. Government obligations in both Te Tiriti o Waitangi and in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) set clear expectations for approaches to governance and participation in decision-making, and meeting these is a worthy objective now and in the future.

There is growing awareness of the importance of our Treaty partnership with Māori, equity and iwi aspirations for Oranga.[6] It is crucial to continue to build trust between the Crown and Māori through greater transparency, access, participation, the development of enduring relationships and partnership. Encouraging and facilitating greater Māori participation in decision-making is not just about obligations, it is about getting better solutions for all while supporting Māori to achieve their own aspirations, as espoused in their Treaty settlements.

For example, agencies are increasingly giving effect to their obligations to Māori and honouring Te Tiriti through mana ōrite relationships. These relationships go deeper than participation in decision-making and reflect a commitment to a true partnership. At Te Tari Taiwhenua, our Mana Ōrite Agreement with the Data Iwi Leaders Group, signed in 2021, establishes a relationship through which DIA and the Group can find new ways to engage and work together on digital public services so they are more responsive, accessible and enable better outcomes for Māori.

Ko te horopaki o tēnei wā: kei te pēhea ngā āhuatanga nei ināianei? Our current context: What's life like now?

As this report was being written, the COVID-19 pandemic had entered its third year. Our borders with the world were reopening, and the world was coming to grips with the turmoil caused by Russia's invasion of Ukraine. A new report[7] provided the strongest warning yet of the necessity for swift, comprehensive action to slow the rate of climate change. The imagined future many people may have had at the start of 2022 was quickly upended. We expect that New Zealand won't be exempt from the impact of these global shifts.

Building a shared sense of a new normal is likely to be an ongoing process as we adjust to our changing circumstance. We have opportunities to do things differently and an increasing need to act swiftly.

And we know that technology will offer multiple solutions to the challenges that society faces, whether it's climate change, disease, or the future of cities. Strong communities are better able to be resilient in the face of challenges.

COVID-19 has accelerated the adoption of new technology

Science and digital technology have been at the heart of many of the most significant moments of the last two years. When a novel coronavirus was discovered in late 2019, scientists developed and delivered safe and effective vaccines within a year.

As countries locked down, many people were able to work from home, using video conferencing tools, laptops and mobile telephones – the kind of kit and privileges that would have been available to a small percentage of people only a few years ago, and is still not available in many developing countries.

Education went online. Digital technology enabled people to stay connected to family and friends and colleagues around the world. Although many events were cancelled, some musicians, actors, dancers and other performing artists were able to use the internet to reach their audiences through streaming performances. Online shopping boomed, as did online church services, yoga sessions and classes in everything from baking to behavioural economics to dance. Within Te Tari Taiwhenua, we supported changes to the Gambling Act 2003 to help charitable organisations such as Coastguard NZ and the Heart Foundation with their fundraising lotteries. The amendments enabled people to pay for the lottery tickets by phone or online – prior to this, payment could only be made in person or via the mail, usually with a cheque.

It's estimated that global progress on the development of digital products and services accelerated by *years* in the first *months* of the pandemic.[8]

Te Tari Taiwhenua's own research into the digital government response to COVID-19 found that the organisations that were best placed to respond quickly with innovative solutions to the pandemic's challenges had strong digital foundations in place, including agile ways of working, cloud-based systems and equipment and infrastructure to support remote work. It also found that system-level challenges remain, including around digital inclusion and the uptake of new technologies, including cloud-based solutions.[9]

Communities are busy, and participation is high…

New Zealand's experience of COVID-19 saw people rally together to look after the most vulnerable and follow health advice to isolate to keep everyone safe. Technology helped us keep in touch, to keep working, and to keep learning, but social isolation and uncertainty about the future also fuelled a rise in anxiety, mis- and disinformation, and toxic discourse online.

Strong social networks are important for people – and in New Zealand, 95 percent of people believe they know someone they could rely on in a time of need. That's more than the OECD average of 91 percent.[10] The last 10 years alone have seen a remarkable local effort to rebuild after earthquakes in Christchurch and Kaikoura and numerous weather-related events, and to support communities after the Christchurch mosque attacks in 2019 – with volunteers playing key roles in all of these.

More than one in five people volunteer from New Zealand's increasingly diverse population. But while volunteering levels remain high, fewer people are participating. The number of people who volunteer for registered charities has fallen significantly in the last decade – from 462,179 in 2010 to 223,619 in 2019, but the total number of hours in voluntary work has remained steady.[11] The charities landscape is busy, too. We have more than 28,000 registered charities in New Zealand, and more than 145,000 people work full time in the charitable sector – approximately five percent of New Zealand's workforce.[12]

…and there are many ways to take part

Over the last two decades, new kinds of community (and new ways of organising) have emerged in online spaces – including via social media groups, platforms like ActionStation that support civic

action, and crowdfunding platforms. You no longer need to be a member of a formal organisation, tied to a physical address, to participate in a community.

And people have asked government to shift away from short-term engagements toward an ongoing conversation. For example, research by the Department of the Prime Minister and Cabinet's Policy Project affirmed that communities would prefer early, meaningful, and inclusive engagement in the development of policies that affect them.[13] A good example of work in this area is The Hive, a platform built for the Ministry of Youth Development to support ongoing engagement with young New Zealanders on policy proposals.[14]

The picture of trust and voting is mixed

Trust and confidence are indicators of how well communities and institutions are functioning[15], and high levels of trust and confidence encourage participation. New Zealand traditionally ranks near the top of most international measures of trust in government. In 2021 it was tied for first in Transparency International's Corruption Perceptions Index[16] and was second in the Economist Intelligence Unit's Democracy Index assessment.[17] Trust in charities is on the rise, with 57 percent of respondents in a June 2021 survey saying they had a relatively high level of trust and confidence in the charities sector.[18]

However, our trust in media is falling – in 2022 45 percent of New Zealanders trusted news, down from 48 percent in 2021 and 53 percent in 2020.[19] Globally, the Edelman Trust Barometer for 2022 reported a dramatic loss in trust in institutions and the media.[20]

Turnout in the 2020 general election was the highest since 1999 at 82.24 percent of enrolled electors.[21] However, turnout for local body elections has declined from 56 percent in 1989 to 42 percent in 2019.[22] And those who are participating in formal planning and engagement processes do not appear to be a representative cross-section of the community.[23][24]

A December 2021 report from Koi Tū: The Centre for Informed Futures at the University of Auckland warned that mis- and disinformation and polarisation emerging in online spaces were eroding trust and threatening social cohesion. It suggested that "governments need to place the opportunities and challenges of the digital future more centrally and to consider them through the lens of sustaining or undermining social cohesion. Not doing so may threaten democracy itself, seeing it replaced by a more autocratic form of governance. Societies could fracture in ways that undermine their very essence and identity."[25]

Digital can support participation, but the need for greater access remains

In an increasingly digital world, digital inclusion has become essential to fully participate in our modern society and economy. However, it is estimated that up to one in five New Zealanders are digitally excluded in some way. We know that having access to the internet or a digital device is not the only measure of inclusion. Four elements are critical for people to be able to confidently engage in and benefit from the digital world: motivation; access (including affordability, connectivity and accessibility); skills, and trust.[26][27]

Those most at risk of digital exclusion include: Māori; disabled people; Pacific people; people in social housing; seniors; the unemployed and underemployed; and remote communities. [28] In our own qualitative research into different community experiences of digital exclusion, for example, we found that the challenges of digital exclusion became more urgent and pronounced for Māori

during the COVID-19 pandemic, when so many people needed to rely on digital tools and communication for daily life. Potential solutions included strong leadership from government and partnership with iwi to tackle the challenges around affordable access to devices and internet connectivity and skills training, among other issues. [29]

In 2017 Te Tari Taiwhenua surveyed 195 citizens, nine NGOs, and 20 government agencies to understand experiences and look for opportunities to use digital channels to support people's participation in democratic processes.[30] Forty-one percent of respondents told us they would like to see existing government channels improved or new channels opened to have their say on issues that mattered to them. People were interested in the role government might play in reducing the barriers to digital engagement, where there might be opportunities for co-design and co-creation of services and products, and citizen-led initiatives.

A 2019 paper from Local Government New Zealand, 'Reinvigorating Local Democracy',[31] suggested implementing "place-based" approaches to local governance and decision-making to bring together councils, relevant government agencies, iwi/Māori and local organisations.

Themes from submissions in response to the paper included the importance of meaningful engagement with communities, the need for investment in local solutions and the potential in co-production and co-design to produce culturally relevant solutions to local priorities. It also highlighted the importance of civic education: "For people to be active citizens they need to be familiar with how public agencies work as well as their individual rights to contribute to the decision-making processes that impact on them."[32]

Philanthropy and charities are finding new ways to reach, support communities

Philanthropists, local authorities and communities have been experimenting with new approaches to community participation and decision-making. Many of these experiments are designed to give strength to voices that are not always heard, such as disabled people or youth. This year saw the launch of Match | Te Puna Taurite, a service provided by Philanthropy NZ that attempts to use an online platform to better connect funders and registered charities doing work they might want to support.[33]

Community-led development, for example, seeks to give communities greater autonomy over how funding is distributed and reduce the administrative burden on communities through the grant-making process. This enables community groups to spend more of their resources doing the work, and less time seeking funding.

The experience of COVID-19 across the community sector has shown that the system could adapt quickly to meet urgent needs, but that more work lies ahead for it to evolve to better respond to current and future needs.[34]

Libraries and community hubs function as important 'third spaces' for people

The core mission of libraries is supporting a society of "literate, knowledgeable and connected citizens."[35] Libraries' reach includes connecting with users from historically underrepresented communities.[36] In addition, libraries are trusted to be accurate sources of knowledge[37], and have increasingly played a role in a range of areas beyond their traditional role, including providing free access to technology.[38]

Libraries are often perceived as key community assets: safe and trusted spaces that belong to the community and where people can find the resources to build their own solutions.[39]

In addition to libraries' traditional roles of providing access to books, supporting literacy, generating knowledge, and helping citizens feel connected, the value of all types of library services increasingly contributes to broader wellbeing including social, cultural, employment, leisure and recreation. Libraries and community hubs also play an important role in supporting digital inclusion and helping to address economic divides.

Libraries are trusted environments and provide access to trusted information. We know from previous Kiwis Count surveys that public library services are consistently one of the highest-rated for satisfaction among a selection of most-used services, with high levels of trust among New Zealanders.[40]

Wāhanga 2: Ngā tirohanga hapori ki te anamata pai rawa atu

Section 2: Community perspectives of an ideal future

What is the ideal future for community participation and decision-making? It would be easy for Te Tari Taiwhenua to project our own ideas of "ideal" into the future, rather than the perspectives of community members. What might an ideal future look like for them?

We reached out to a number of diverse communities and brought their ideas together with the results of previous engagements and desktop research to create a rich view of community aspirations.

Ngā wawata o Ngāi Māori | Māori aspirations

There is nothing ambiguous about Māori aspirations in this space. The ideal future for Māori decision-making and participation is encompassed in the principles of Te Tiriti and the settlement agreements with the Crown. Their aspirations are reflected in the ideal future we describe below.

We wanted to reflect a strong sense of Māori aspirations in our Briefing but acknowledged the significant demands on Māori during the pandemic and overall engagement fatigue. We also acknowledge that Māori expect kanohi ki te kanohi communication as an indication of respect and the value of the relationship. We respected this and sought the advice of our Tangata Whenua network and one of Te Tari Taiwhenua's Māori advisory groups about the kaupapa and potential points of interest in our Briefing for iwi and hapū.

He aha tā mātau i rongo ai i ngā hapori | What we heard from communities

We heard that community is extremely important to people in Aotearoa and is at the heart of identity, purpose and connections, and a sense of belonging. Most people identify with multiple communities. Physical and geographical communities still featured strongly in people's consciousness. People told us that community meant a place where they could be their full selves (without fear of judgement). Keeping traditions alive is important.

How communities use technology now

COVID-19 lockdowns have accelerated the willingness of people to experiment and embrace new technology. On many marae the use of digital technology has become the new normal for community hui, committee and board hui, and marae hui. Some communities are experimenting with different channels to tell their stories and connect.

Some community members in our engagement have been involved in community-led development initiatives and are positive about their experiences. They tell of history being kept alive, spaces being recognised and cared for, and voices being heard "at the table".

He aha ngā āhuatanga ōrite o te anamata pai rawa atu? | What are the common elements of an ideal future?

Across our engagement, we heard some common aspirations for the future of community participation and decision-making:

- **Authentic, diverse and inclusive and accessible**: Communities want to participate in a way that feels authentic to them and reflects their culture. Participation should not be hindered by language, accessibility of content or access to technology. [41]
- **Co-designed and community-led:** Reflecting te ao Māori through practices such as co-design and partnership under Te Tiriti. Community-led, with access to funding and a high trust environment.
- **Māori/ Crown partnership**: Capturing iwi and hapū aspirations for partnership with its roots in Te Tiriti.
- **Meaningful and impactful participation:** Participation and decision-making should enhance community feelings of worth and value, not make people feel less important or ill-informed. Community members want to know that their contribution is respected and has contributed to important decisions about their community.
- **Simple and intuitive:** Communities envisaged an ideal future where administrative, practical matters could be simplified and streamlined.
- **Safe:** People want to use technology if it is safe and reliable, and if it does not expose them to intimidation.
- **Technology enabled, not technology driven:** Technology can overcome challenges of scale and distance and increase accessibility. Equity of access to tools and skills needs to be assured so people can confidently engage.

Many people we heard from see technology as a core part of their community's future, but not at the expense of the connecting experience that being together in person can provide.

Ko te raranga mai i ngā whakahokinga kōrero | Bringing together all the feedback

A consistent body of existing feedback reinforced the insights gathered from our engagement. These included the:

- feedback on National Action Plans for the Open Government Partnership[42]
- engagement on setting up the Ministry for Ethnic Communities[43]
- insights from community groups on supporting the COVID-19 response [44]
- feedback on the draft Digital Strategy for Aotearoa[45]
- feedback on the Government's response to the Royal Commission on the Christchurch mosque attacks[46]
- the Future for Local Government Review's interim report, Ārewa ake te Kaupapa (September 2021).[47]

Themes from this feedback are the importance of trust through transparency of government decision-making, access to information, future aspirations for more diversity in decision-making, more equity of access and opportunities, the importance of community-led solutions to meet a community's aspirations, authentic representation that values every voice, as well as concerns about privacy and data collation and how it is used. People told us that they'd like to feel they belong, can be themselves and that their diversity is seen as a strength.

Feedback on the draft Digital Strategy for Aotearoa, for example, highlighted the importance of Te Tiriti o Waitangi being acknowledged as a core foundation for the Strategy. Respondents cited the importance of government realising its role as a Treaty partner and building equity, confidence and opportunities for iwi, hapū and whānau to use and benefit from digital technologies. Specific examples included encouraging rangatahi Māori to pursue education in digital skills and move into careers within the growing digital technology sector, and addressing inequity in the digital tech sector, and working in partnership with Māori digital technology innovators.[48]

Wāhanga 3: Ko ngā ia nui me ngā kōkiritanga
Section 3: Megatrends and drivers

As we looked ahead to what Aotearoa's future might hold, we also considered a few key global megatrends and drivers[49] that people, communities and governments may need to plan for in the coming 10 to 20 years.[50] Those most relevant to our topic include:

Ko wai tātau, ko whea tātau e noho nei | Who we are and where we live

The world's population will continue to rise and, in developed countries, get older.

Urbanisation is expected to continue, leading to the growth of megacities. Family structures are continuing to evolve, and single-person households are projected to be the fastest growing through to 2030.[51] As society becomes more urban and individualised there is increasing potential for social isolation and marginalisation, but also more opportunity to create urban environments where communities thrive, using technology.

In New Zealand, our population is expected to continue to rise and age gradually in the near term. The fastest growing demographic is expected to be people aged 65 or over. Without migration, population projections show New Zealand is likely to begin to see a fall in total population from the early 2040s.[52]

The proportion of people identifying as European is expected to drop and Māori, Asian, and Pacific ethnic populations will increase their proportion of the total New Zealand population over the next 20 years, according to Statistics NZ population projections.[53] These also indicate that the Māori ethnic group is likely to increase its share of the total population across all age groups. Depending on future trends in birth rates, the Māori population could account for nearly 21 percent of New Zealand's population by 2043.[54]

Kei te nui haere te ōritenga-kore | Growing inequality

Projections show that while the global population continues to grow, the proportion of that population that is middle class will increase. By 2030, more than half of the world's population (projected at 8.3 billion) will be middle class, and 66 percent of this middle class will be living in Asia. [55]However, there are predicted to still be large segments of the world that will still have limited access to education, technology and not have their basic needs met. In New Zealand, a 2022 OECD report on New Zealand's economy found that our rate of inequality is higher than most advanced economies, with the poorest 20 percent of households earning 7.3 percent of total income.[56]

Kei te rerekē haere tō tātau taiao | Our environment is changing

Rising temperatures are expected to cause more frequent extreme and severe weather and climate effects will impact the viability of crops and ecosystems. In February 2022, the Intergovernmental Panel on Climate Change released its latest report[57] on the impact of climate change. Reports suggest that by 2030 key tipping points for temperature rises (1.5 degrees Celsius) will occur, with significant implications for sea level rises, coastal land covered by the rising salt water, habitat loss and natural diversity.

We can expect widespread changes to transport, energy and food, along with the potential of millions of climate refugees from countries with coastlines flooded by rising waters.[58] Community resilience and cohesion will be tested in this more extreme environment.

He kukuwhatanga hangarau e tino tere ana, he hāpaitanga me te ūngututanga | Rapid technological evolution, adoption and convergence

Technology, and the way people have embraced and adapted to it, has transformed our world over the last 50 years and another wave of advances is expected to change every aspect of our lives in the coming 10 to 20 years.

Some of the areas to watch include:

- **Ubiquity**: The scaffolding for technological transformation is in place. Around 726 million people joined the web in the three years from 2017-2020.[59] Many are choosing smartphones over laptops and tablets and are more likely to use voice commands; many may speak a language but not be able to read or write it.

- **Data**: Exponential growth in the amount of data created is expected to continue. For example, in 2020, the International Data Corporation forecast that the amount of data created in the next three years would be greater than the data created over the past 30 years.[60] Beyond wondering what kinds of tools we will need to make sense of all of this information, consideration will need to be given to privacy, data sovereignty and data governance.

- **Cybersecurity**: The amount of information stored in, and reliance of critical processes on, digital systems around the world, means that there's an increasingly urgent need to prepare for the threat of cyberattack. The threat has grown since the start of the pandemic as more people, and businesses, moved online to keep trading during lockdowns and for work, study and entertainment. The world has witnessed attacks on power grids, pipelines, and stock markets in recent years. New Zealand saw cyberattacks strike a DHB in 2021 and the NZX stock exchange in 2020. In the first six months of 2021, global ransomware attack volume grew by 151 percent.[61]

- **Mis- and disinformation**: Technology will likely continue to play a part in mainstream sources of information. Social media is used as an alternative source of information, as well as a place where views and opinion are shared with little direct regulation in most countries. People's experiences with false and misleading information, especially in the online environment, is a critical issue for governments, communities and institutions around the world, because it goes to the heart of people's trust in those institutions.

  There has been a rise in the spread of mis- and disinformation[62], including around the COVID-19 pandemic and vaccines, around the world. New Zealand has not been immune to this.[63] Some online communities have formed around extremist views based on mis-and disinformation, and there has been a rise in the use of hate speech and extremist language online.[64][65] There is also a risk of a growing divide among people based on their source of information.[66]

Ngā whakarerekētanga mana whenua o te ao | Geopolitical change

Before February 2022 some commentators would have anticipated a continuing trend of globalisation running alongside a fragmentation of society through the growth of borderless online communities. However, the war in Ukraine and the swift reaction with Western sanctions against Russia could affect geopolitical stability, trade, and the global economy into the coming years.[67][68] Alongside a humanitarian crisis that has killed thousands and displaced millions more, the war may well lead to increased inflation as countries seek new sources for oil, gas, fertiliser and wheat, for example. For New Zealand, this may mean continued instability and volatility in shipping, impacts on our food and agriculture sector, and rising prices for fuel.[69]

He aha te whai pānga o ngā ia nui nei mō te anamata? | What do these megatrends mean for the future?

Trust is a significant theme across these trends – how can people maintain trust in one another, in their communities, across the media landscape, and with their government? How can we build greater trust between Māori and Crown? We are at an inflection point where the decisions we take now, and in the coming years, can help us shape a future that is hard-wired for trust.

Trust is supported by openness and transparency and a genuine willingness to understand and listen, and when many voices can be heard in decision-making. Technology can support this in a variety of ways, and government, businesses and the NGO sector can work together to build the solutions – whether they're based in regulation, social norms or education – that can help us make the most of the opportunities we will have, and to minimise the potential for harm. We will sketch these out in our policy options section below.

Ko te whai whakaaro ki te pēheatanga o ēnei āhuatanga: e toru ngā momo huarahi hei te 2032 | Thinking about how this could play out: Three scenarios for 2032

The megatrends and drivers identified above will have an impact on the environment for community participation and decision-making and government policy interventions. Below are three scenarios for how this could play out. Running through these scenarios is a continuum from low to high trust.

HIGH

LEVEL OF TRUST

LOW

Optimistic outlook

Technology providers and governments in partnership have created strong regulatory and rules-based codes of behaviour that keep people relatively safe in virtual spaces. Digital government acts as an enabler and role model for how technology could be used to enhance engagement and improve access.

Inclusive and accessible approaches allow communities to participate in an authentic way. Flexible funding provides autonomy. Strong relationships and partnerships with Māori allow participation and decision-making to be consistent with Te Tiriti.

Unexpected crises occur, but this galvanises communities to come together and be more resilient. Climate change further encourages communities to look within to find solutions. Growing urbanisation creates local parochialism and greater cohesion. Cities are smartly designed for cohesion. Communities come together to look after the isolated and aged. Rural communities are well-supported by government initiatives to be strong, resilient and thriving.

Social media platforms support people to find a "community" and participate in decision-making in a safe space. Levels of civic and media literacy levels are lifted, and people are more resilient against mis- and disinformation.

While some inequalities persist, successive partnerships between government, the private sector and communities start to reduce inequalities in key domains (education, health housing, income) and this is having an impact. Technology is accessible for all.

Current trajectory

Technology creates new opportunities, but there is increasing concern about how personal information is used and whether it is secure. Government's use of technology helps to accelerate progress and the uptake of cloud-based solutions. Regulation provides some protection, but it is continuing to evolve.

Government and local government is increasingly bi-cultural and multi-cultural in its outlook and engagement. Te ao Māori approaches are still to be embedded.

Unexpected crises continue to create divisions in societies as does growing inequity. Climate change creates further divisions but activates youth participation. An aging population creates challenges for health, tax and superannuation affordability. There is an increasing urban-rural divide.

Cyber-attacks are more frequent. Algorithms and echo chambers reinforce the views of the minority and allow the marginalised to legitimise their views with the like-minded. Youth are increasingly politically and social media literate.

Negative outlook

Technology continues to evolve rapidly with little regulation or curation. Government has left this to providers who have focused on monetising experiences rather than safety.

A sequence of pandemics leads to the breakdown of trust and greater inequality. The social contract is frayed. Climate change leads to some communities becoming unviable and further exacerbates divisions.

The marginalised and isolated create online communities where bullying and hate speech flourish and society becomes further divided.

There is no trust in decision-making and less participation and engagement in the democratic process and decision-making. This is not inclusive and diverse.

Inequality continues to grow, especially among Māori and Pasifika. This creates growing division and disengagement. A significant proportion of society cannot access technology and, in the absence of face-to-face options, are left out of engagement.

Pressure on city infrastructure and housing create further divisions in New Zealand society.

Wāhanga 4: Ka pēhea te hangarau e whakaahei ai i te anamata pai rawa atu?
Section 4: How might technology enable an ideal future?

Our introduction spoke of the challenges of painting a clear picture of the technological environment in 2032. We expect digital technology to continue its rapid evolution.

Some of the key questions include what kind of tools, or technologies, will help us achieve the future communities are seeking? What kinds of things do we need to think about now to make sure our communities can thrive and stay safe in this future? How can we give effect to our obligations under Te Tiriti in this evolving digital world? And how can we make sure people have the access and skills they need to walk confidently into this new world?

We expect digital technology to continue its rapid evolution in the coming decade, and many of the shifts could affect communities and community participation – and therefore social cohesion. Of the many digital megatrends on the horizon (including as described in this 2019 diagram[70]), the ones we see as most relevant to our briefing include:

- Artificial intelligence and machine learning
- The Internet of Things, and the data flows that it produces …
- …giving rise to smart city technologies
- Digitally extended realities / immersive digital experiences
- The ongoing expansion of digital platforms and the growth of metaverses
- Robotics – both for automating repetitive tasks and supporting increasingly sophisticated interactions with people

Wāhanga 4: Ka pēhea te hangarau e whakaahei ai i te anamata pai rawa atu? | Section 4: How might technology enable an ideal future?

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- The arrival of 5G and potential for 6G
- Natural language processing, giving rise to greater use of voice interfaces and chatbots
- Computer vision and facial recognition
- Cybersecurity, cyberthreats, and cyberwarfare
- Mass personalisation and micro moments
- Geographic extension of internet access, including through satellite networks
- Cloud and edge computing
- Quantum computing
- 3D and 4D printing
- The potential for 'biohacking' that goes beyond high-tech nutrition and exercise and into microchips implanted in the body.

It's important to note that experts also assume many innovations are expected to come together, or build on one another, to produce other innovations that we may not have anticipated (technology convergence). Sometimes this may happen in ways that we may not yet be able to anticipate.

Recent research from the Pew Research Center[71] asked 862 global technology thought leaders for their visions of public digital spaces in 2035. Two schools of thought emerged: a dystopian future of greater conflict, division and surveillance; or a future where some of the most problematic aspects of technology could be addressed, the right incentives put in place, and people come together to make the needed reforms.

There's no doubt, noted Mark Davis, Associate Professor of Media and Communications at the University of Melbourne, that we're at a pivotal moment.

"We are fast approaching a crisis point where the failures of the present hyper-corporate, relatively unregulated model of the internet are having severe, detrimental impacts on public communication. We are at a proverbial fork in the road. One route leads an ever deeper downward spiral into digital dystopia: hyper-surveillance, predictive technology working hand in hand with authoritarianism, disinformation overload and proliferating online divisiveness and hatred. The alternative route is a more-regulated internet where accountability matters, guided by a commonly assented ethics of public culture."[72]

The Pew report suggests that the tech industry, government and activist groups need to work together to address the problems we see in digital spaces, including looking at the role of media platforms and redesigning digital spaces to facilitate debate, enhance civility and provide personal security.

Tēnā, he aha kei mua? | So, what's ahead?

The most noticeably different aspect of digital life for the average user in 2035 is likely to be a more seamless integration of tools with 'reality.'

We expect to see the growth of seamless experiences across multiple devices or wearable technology, access anywhere and from anything, miniaturisation (including wearable computing); fully immersive experiences, the democratisation of data and data visualisation, and greater use of artificial intelligence to support decision making. We are also assuming technology may have a role

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in safeguarding sources of verifiable information that can be easily consumed and understood by people.

Digital tools that reduce communication barriers and support cross-cultural engagement, such as AI-powered automatic language translation, could help people to participate in communities and decision-making more easily. At the same time, the increased flow of data and information will create concerns about who has access to data, how it is stored and what it is used for. Digital can break down the significance of a physical place for communities – but what does this mean for people who define their community in relationship to places, such as mana whenua?

And we expect to see major advances in healthcare – from gene therapy to an expansion of so-called biohacking. This umbrella term for "DIY biology" has come to mean everything from taking high-tech supplements to optimising your health through wearable technology like sleep or brain monitors to implanting chips into the body that could do everything from unlock your door to monitor blood sugar levels.[73]

Ka pēhea tātau e whakamahi ai i ngā hangarau nei hei whakaahei i te anamata pai rawa atu? | How could we use this technology to enable an ideal future?

There are many opportunities to enable the ideal future that communities told us about.

New technology could be used to remove some of the barriers and create new opportunities to participate and influence decision-making. Imagine a world where technology has overcome barriers of language and culture, equity, time, scale and distance.

Technology could allow communities to create their own spaces and for those spaces to interact with government spaces automatically and seamlessly (if they wish). This could create new opportunities to engage, share information and collect insights.

Artificial intelligence could provide opportunities for more constructive spaces, where bad actors are automatically isolated and extremist signals are identified early.

Funding and compliance tasks could be automated, making it easier for community groups to access funding and support.

Individuals could be empowered to own their own data and online identities. Information online could be trusted because it would be built in blockchain and other non-corruptible sources. Simple language interfaces could translate in real time, and artificial intelligence and bots could provide support and assistance.

Advancements in digital "twin" technology could enable people to participate in many things at the same time and allow decision-makers to broaden their engagement. Augmented reality could enable communities to customise public spaces, or to visualise changes – like to roading or parks – when public works are being proposed.

Adopting technology alone won't create the opportunities: communities will need access, capability, funding, time and support for technology to facilitate these opportunities.

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Ko te waihanga anamata e ora pai ai te tāngata i te ao matihiko | Building a future where people can thrive in a digital world

There are an array of possible actions government, businesses and NGOs – as well as the tech sector – could take to ensure people will be able to use technology confidently into the coming decade. Running underneath these are common, foundational principles such as building and maintaining trust, supporting accessibility, inclusion and people's participation, ensuring people have access to information and data that is easy to understand, and equity of access. These principles are reflected in the policy options identified in Section 5.

Within government, we already have good foundations in place to support decisions into the future. These include a Cloud-first strategy for agencies, commercial agreements with cloud service providers for service, innovation and security, agreements with the Data Iwi Leaders Group that spell out how government and Māori will work together to use data and technology to improve services and outcomes for Māori, and a multi-year, cross-government effort to lift digital inclusion and ensure that everyone can participate in a digital world.

Possible actions include:

- frameworks and regulation that support accessible, secure and protected digital spaces
- finding ways to ensure people can feel safe to participate in digital spaces, including through reducing the possibility for these spaces to be undermined by communication intended to stoke division and undermine social cohesion. Communities may choose to use artificial intelligence tools that flag or filter out inflammatory language, for example
- striking the right balance of technology, regulation and governance so that people trust that their privacy is respected when giving feedback in digital spaces
- ensuring that digital technologies that have the potential to be invasive of privacy (such as biometrics) are tightly and transparently governed to protect citizen safety, personal information, and to avoid discouraging people from participating in digital environments
- building people's resilience to false and misleading information through education in media literacy, taking active approaches to combatting information disorder, and ensuring that trusted 'third spaces' like libraries and community hubs remain available as sources of trusted information
- improving people's understanding of data science, ethics, and democratic processes so they can make sense of the volumes of information being produced in society and can participate fully
- keeping a tight focus on making sure all New Zealanders have access to the digital tools, skills and confidence to be able to participate in digital spaces if they wish, and to participate in non-digital ways if they prefer.

He aha ngā mahi mā ngā kāwanatanga hei whakariterite mō tēnei taiao anamata? | What will governments need to do to get ready for this future environment?

Government will need to set the pre-conditions for success, including around the digital infrastructure, support for digital accessibility and inclusion and the development of critical thinking skills, contending with mis- and disinformation, and supporting an innovation ecosystem.

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This means investing in engagement skills, and digital tools and technology, to support better engagement with communities – which could also help underpin national conversations about such important topics as artificial intelligence, robotics, smart cities, and more.

It means government acting as a digital exemplar – through its ways of working, in how its foundations are structured and set up, and in the capability of its people. This will be important for people's own trust and confidence in these technologies and will act as a support for the trust and inclusion themes of the proposed Digital Strategy for Aotearoa.

Building people's trust in digital technologies – by ensuring people's information is kept safe, for example – will help New Zealanders to engage confidently with new technology and the opportunities it presents.

Increasing the government's use of cloud-based services – as hyperscale cloud facilities are being developed in Aotearoa over the coming years – will help build the resilience and efficiency of our government systems, provide opportunities to improve services, support the growth of our digital economy and anywhere, anytime access to services. And it means building ethical frameworks to support good, safe decision-making around technological innovations – whatever they might be.

And it will be important for government and iwi to continue to work in partnership to understand, and incorporate, te ao Māori perspectives on how government data – including Māori data – is governed, including how and where it is stored. For example, how might Māori build a "digital wharenui" that could house Māori data and apply the appropriate protocols to how it is used?[74] This work is ongoing, in part through the Mana Ōrite Agreement between Stats NZ and the Data Iwi Leaders Group.[75]

Ka tohua e ngā mahi auaha he aha ka taea ināianei – ā, he aha ngā āhuatanga ka hua pea hei te anamata | Innovative practices show what's possible now – and what the future could hold

As we considered the policy options that could support or enable these opportunities, we asked ourselves: are there any exemplars, in New Zealand or overseas, that we can learn from? Some examples of innovative practice we have identified include:

- trials of participatory and deliberative democracy approaches, such as participatory budgets (South Korea, Madrid)[76] and a research project undertaken by Koi Tū: The Centre for Informed Futures and Watercare to trial these approaches in thinking about the future of Auckland's water supply[77]

- using technology to design spaces to foster community participation and social cohesion as seen with Japan Society 5.0[78] and Toyota's Woven City.[79] Amsterdam Smart City[80] is an open and safe space for innovation and cooperation that brings together companies, knowledge institutions, authorities, and citizens to shape the city of the future through a public-private partnership

- extended transparency and open access to data and information to make informed decisions. In Taiwan, open-source software called Polis is used to seek people's input into legislation. It's designed to help groups reach consensus on tricky issues[81]

- using technology to engage citizens. In Paris, for example, a virtual civic hub was created during the pandemic to coordinate volunteers and provide information[82]

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- engaging citizens in creative ways: for example, the New Plymouth District Council has adopted several community participation mechanisms, including Community Circles, as a way of inviting people to take part in deeper conversations about opportunities and challenges, and a Community Action Incubator to develop or regenerate community initiatives.[83]

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Wāhanga 5: Ngā kōwhiringa kaupapahere me ngā wāhi mahi hei whaiwhai
Section 5: Policy options and areas for further work

The purpose of a Long-term Insights Briefing is to focus attention and effort on future issues facing Aotearoa New Zealand and the strategic choices government and society could make now, and in the coming years, to steer through them.[84]

We expect that the pace of change will only accelerate in the next decade – and it will be important for New Zealand to deliberately look to the future, as these briefings encourage us to do. It will not be enough to react to the changes once they've arrived. For example, national conversations could be one tool to help governments and people understand what a desired future might be in the face of faster innovation cycles.

The policy options we identify should:

- enable an ideal future state
- enable adoption of technology while maintaining trust and social licence
- break down barriers to community participation.

Ngā whakaaro ariā me ngā whiringa | Assumptions and choices

Our starting assumptions are that thriving, resilient communities are important for New Zealand, and that openness, accessibility and transparency are critical for decision-making and for fostering trust not only in government but among people and communities. We are expecting that advances in technology will be assessed with a te ao Māori lens and solutions developed in partnership with

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the private sector and NGOs where it makes sense. We assume that the growth of human-centred, community-led approaches will continue.

Strategic choices

Governments have a range of strategic choices to make. The primary choices are around what government's role in shaping this future could be – and if it decides it should have a role, who its partners might be.

The key choices are not binary – "either this or that." They will need to be balanced over time and will evolve as public sentiment and the external environment change. At a practical level they cover a continuum, including:

- growing demand and increasing supply
- representative democracy and participatory and/or deliberative democracy
- curated and unconstrained digital spaces
- guidance and regulation
- freedom of expression and protection from online threats
- uncontrolled access and data to tight controls on privacy and security
- complete transparency to controlled access
- centralised to devolved

At the highest level, our options include:

- **Promoting, role-modelling and enabling**: seizing the opportunities presented by new technology to improve our way of life and the wellbeing of our communities, while ensuring people remain safe and have the access and skills to use it
- **Minimising harm and defending**: through setting boundaries, standards, guardrails, or regulation
- As in any policy setting, there is also the option to **do nothing**.

Ngā taputapu kaupapahere | Policy levers

Governments have a range of tools to use within these scenarios. They include:

- **partnerships and relationships:** working with others strategically, including iwi, communities, non-government organisations, philanthropists
- **investment:** in technology, and in people's capability to use it; in innovation, in the infrastructure that underpins the technology, and in research
- **guidance and guardrails:** around how technology is used, ensuring safety by design is a minimum standard of online services, how people's information is managed, and how information is made accessible
- **regulation:** for example, around business practices, online content, how people behave within increasingly immersive online spaces
- **education:** for example, in media literacy, data science, ethics, engagement skills, and democratic processes; encouraging the development of new social norms.

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Ngā kōwhiringa kaupapahere | Policy options

Many of the strategic choices and policy options don't sit solely with Te Tari Taiwhenua, or within our regulatory or system leadership roles. Many are cross-cutting and would require collaboration across government and other sectors to achieve.

How might we use technology to enable and strengthen communities?

The opportunity: *Technological advances will offer new ways for people to interact with one another, within their communities, and with their government to make decisions about their future, while smart city technologies could support the development of healthy, connected communities.*

Why: Participation in decision-making supports trust, community cohesion, and wellbeing. Smart city technologies will usher in new ways to support communities and to manage cities, but clear rules and guardrails around their use will be needed to ensure social licence and trust.

Government could:

- ensure that communities can access the technology, gain the skills and have the motivation to make the best use of the opportunities presented by technology

- ensure that artificial intelligence development is grounded in the values of the communities and cultures of the people who will use it

- fund communities that are already successfully using technology to engage

- continue to deliver against its digital inclusion goals: to ensure that people understand how the internet and digital technologies can help them; have access to affordable online connectivity and devices; have access to an internet connection or mobile data and the ability to use them confidently and safely in their day-to-day lives; and can develop the skills to use the internet and digital technologies in ways that work for them

- develop, with communities, the core values that the government could follow in engagement – ie a revised IAP2-style framework (the International Association for Public Participation model that guides engagement practices) suited to New Zealand's context

- support skilled facilitation experts to ensure equitable access across different kinds of engagement and invest in developing a bigger pool of people with modern facilitation and engagement skills across government

- explore the potential for content moderation to ensure communities are safe when engaging digitally

- build or co-design terms of use for communication tools that reflect the values of the communities using them

- ensure a te ao Māori lens is applied to new technologies in line with agreements such as DIA's Mana Ōrite Agreement with the Data Iwi Leaders Group[85]

- partner with corporates and non-traditional actors to explore possibilities for communities using technology, for example, the gaming community could be asked to help design online engagement processes

- explore how new technology could be used to renew or revive neighbourhoods or regional centres, including by facilitating greater connection among residents, and

- trial the development of a modern, digitally enabled community – where communication channels and access to the latest technology is built in for all residents, possibly in partnership with business or non-government organisations (NGOs).

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How might we ensure that participation is diverse and inclusive, and that information and services are accessible?

The opportunity: *improving people's access to information and services from government; enabling and supporting two-way engagement.*

Why? It will continue to be important for people and communities to be able to access government information and services in ways that meet their needs – whether this is in person or using digital tools. This is critical for trust, wellbeing and self-determination.

Options for government include:

- ensure that government information online (websites, for example) follow current New Zealand government standards and best practice for accessibility – and that a baseline standard is achieved and followed as technology evolves. This will help ensure that this information can be used by disabled people who might otherwise be prevented from doing so because of a vision, hearing, intellectual, learning or reading impairment

- consider enforcing standards and providing solutions at a cross-government level with regular reporting on progress to ensure transparency

- ensure that modes of communication don't rely solely on access to digital technology or the internet (ie, options for digital assistants or backstops if people need greater support)

- ensure that people have access to the technology and digital skills required to get the information and services they need, and are entitled to receive

- language technology is harnessed to make government information available in a variety of languages

- consider greater support for areas such as libraries and community hubs as places where trusted information can be accessed, and communities can come together to debate and make decisions

- continue to evolve its digital identity system so people can be confident of asserting their identity in virtual worlds

- treat access to technology – including connections to the digital world and digital tools – as a fundamental human right and deliver against this.

How might we ensure communities have access to information to support decision-making?

The opportunity: *Information flows from future technology will be able to provide a community with significant amounts of information about itself.*

Why? Communities could make greater use of data and information to make well-informed decisions by using AI or advanced data visualisation tools and methods. Communities may also be able to use their own information to lower the administrative burden of grant-making – to show the effectiveness of a project, for example, or build their evidence base.

Options for government include:

- support the uptake of new tools and methods with standards, guidelines, and advice
- develop, provide or partner with others to deliver the infrastructure that would underpin greater access

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- make some of this technology freely available to communities along with training and support so that people can easily use it
- explore ways people could access expertise to help them work with information – possibly through "dial an expert" services or, as technology evolves, an AI-based solution
- provide support to upskill public servants, NGOs, and communities about data science, data ethics, data sovereignty
- explore the kinds of structures, protections and regulation that might be needed to support this ecosystem.

How might we build information and civic literacy in society?

The opportunity*: It will be increasingly important for people to be smart consumers of information – both to make sense of accelerating amounts of data and to be able to tell fact from fiction.*

Why? Healthy democracies will need their citizens to have high levels of media literacy and resilience to avoid falling prey to mis- and disinformation. This will help people safely navigate a range of future sources of information – whether printed matter, digital information, or within an immersive experience. And as data flows grow ever greater, people will need new skills to help make sense of it in their daily lives.

Options for government include:

- provide further support for education programmes already in place in New Zealand, and explore solutions used in other countries
- expand support for libraries and other spaces that are sources of trusted information
- increase information literacy and data literacy through the education system, from early childhood through to adult education
- consider regulation or the development of other mechanisms to help people make sense of the world around them.

How might we support ethical and safe participation in a digital world?

The opportunity: *As the pace of change accelerates, Aotearoa New Zealand will need a flexible and adaptable way of thinking about ethical issues arising from new forms of technology.*

Why? Society will need to weigh up the opportunities and risks around emerging technologies to ensure community wellbeing and a healthy, functioning democracy. Tech could be assessed against baseline criteria including whether it is people-centric, supports community cohesion, preserves individual safety and rights; and incorporates te ao Māori principles.

Steps to consider: New ethical and / or regulatory frameworks may be needed, along with education, upskilling, the development of new social norms, and incentives. Governments may need to incentivise providers to police hate speech and abuse as well as growing demand for change within society. This demand could include increasing public support for regulation.

Options for government include:

- reimagine ethical and regulatory frameworks to better cope with rapid advances in technology, including AI. Regulatory interventions could include:

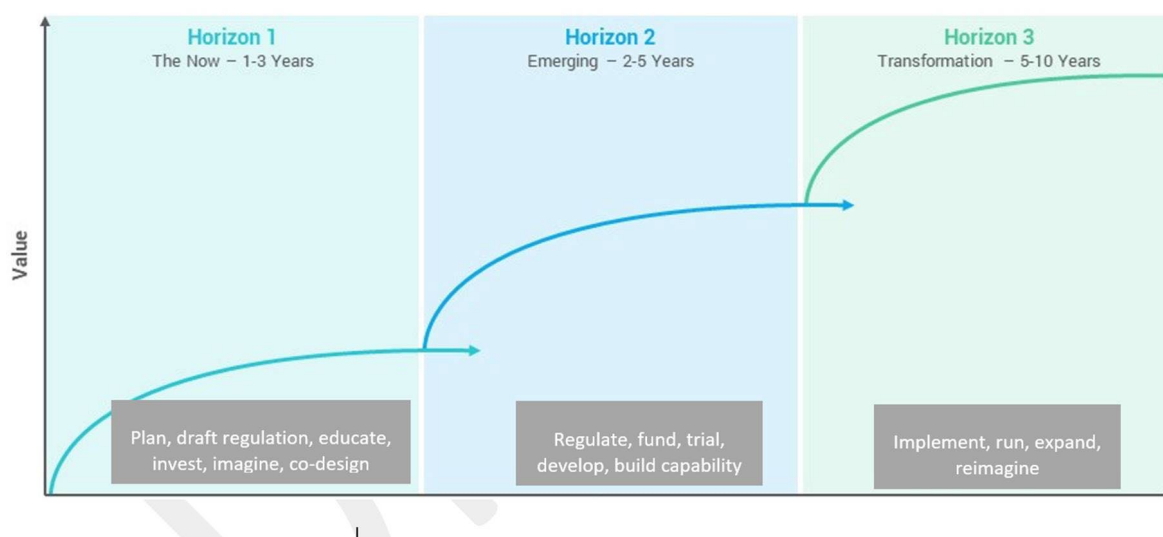**Wāhanga 5: Ngā kōwhiringa kaupapahere me ngā wāhi mahi hei whaiwhai**
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- o limiting algorithm amplification of harmful content by, for example, requiring user verification (similar to anti-money laundering practices), or by media incentivising the use of algorithms and other tools the promote civil conversations and reliable sources of information
  - o investing in public social media to support online placed-based communities and decision-making[86]
  - o supporting the development of ways to amplify the voice of the "exhausted majority" in decision-making[87] and require simple changes to platform architecture (such as slowing down how information is shared)
- explore how to build shared social norms around virtual worlds and online spaces.
- better prepare the next generation and holding a national conversation about what matters most to people in this space, including
  - o how information is used (by both government and the private sector)
  - o how they see a balance being struck between the possibilities of the future (including metaverses, blockchain, natural language, smart city technologies) and protections of individual privacy and free speech,
  - o the risks and benefits of certain technologies.

Me whai mahere e whakatinanatia ai ēnei kōwhiringa | Implementing these options will require a roadmap

Future governments will not be able to choose a policy option without considering the prerequisites for success and implementing them in a phased way. We have summarized these in the diagram below.

What's next?

Te Tari Taiwhenua will listen to the feedback we receive on this draft and work with our stakeholders and partners to develop a final briefing in June 2022.

As we have set out, we think that in the future there will be new opportunities to engage communities in participation and decision-making using technology. Governments need to set their

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course, act as exemplars and consciously create the environment where this technology can be adopted and harnessed by being good providers and users of digital technologies.

Raising the national consciousness and educating the next generation of citizens for active participation and information literacy will take time. Partnerships with others could create new and innovative ways to encourage participation.

We look forward to finding ways to build stronger communities with the support of digital technology.

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Ngā tohutoro me ngā kupu āpiti
References and endnotes

[1] Our final topic wording and focus were shaped by feedback from an online survey, focus groups, and engagement with internal and external stakeholders in 2021. We are very grateful to everyone who took the time to share their views.

[2] Department of Internal Affairs, Long term insights briefing - dia.govt.nz, (2021), http://www.dia.govt.nz/long-term-insights-briefing

[3] The metaverse is a virtual-reality space where users can interact with a computer-generated environment and with one another.

[4] Koi Tū: Institute for Informed Futures, Sustaining Aotearoa New Zealand as a Cohesive Society; (2021). http://informedfutures.org/social-cohesion. This paper defines social cohesion broadly, including: sufficient levels of trust and respect between those who are governed and the institutions and individuals who they empower to govern them; sufficient trust and respect between all the components of a society to foster co-operation for the good of society as a whole; institutions and structures that promote trust and respect for and between all members of society; and belonging, inclusion, participation, recognition, and legitimacy to be universally possible.

[5] Specifically, the Department's mandate includes: regulating activities such as gambling, charities, and unsolicited electronic messages; providing policy advice to government about the community and voluntary sector (including charities); identity and citizenship; government's use of digital technology; local government; and online harm. Through the Government Chief Digital Officer function, we provide leadership of the public sector's investment in ICT systems and digital platforms.

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