

MITIMITI ON THE GRID WHITE PAPER SERIES

02 | HARD CHALLENGES AND HAPPY COINCIDENCES OF A REMOTE MARAЕ CONNECTIVITY PROJECT

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PREAMBLE

Mitimiti on the Grid is a telecommunications infrastructure project that continues to provide opportunities to its small marae community in Aotearoa / New Zealand.

This second paper in the *Mitimiti on the Grid White Papers Series* outlines the impetus for the project, the opportunity, the challenges, and the timely coincidences that made it possible to proceed. Read the first white paper [here](#).

IMPETUS FOR CHANGE

Globally, governments grapple with stressed environments, climate change and massive population growth. The necessity to optimise the way that food is produced is a reality that is starting to displace primary sector economies. It is expected that soon regulatory measures will affect, for example, red meat consumption as

¹ People born between 1980s and early 2000s, also called Gen Y.

² Approximately 450,000 hectares of Māori land are farms, 50 percent are grassland or pasture, 25 percent are forest plantation, 17 percent are bush and scrub, and 0.006 percent are in horticulture (Stats NZ 2016).

efficiencies in the food chain shift to labs and urban farms (Wyman 2018).

Although it will likely force farmers out of their traditional practices, New Zealand's primary sector does not appear to have widely accepted this inevitability. For example, *Beef + Lamb NZ* hopes instead to position itself as world leaders in *specialty* premium meat. This may be naïve. Millennials¹ are acting on their social values and have new eating patterns, and the sheer size of this market is driving change (Beef + Lamb New Zealand 2018).

There is an increasing risk for Māori landowners who are an integral part of the rural economy and ecosystem, and who have a significant proportion of land holdings in the primary sector² (Chapman Tripp 2017). The move to a higher technology-driven primary sector economy is inevitable, but the numbers of Māori in high-value technology fields is critically low. While recent reports and statistical information indicate that the numbers of Māori in Information and Communications Technologies (ICT) is rising, they are more likely to be in lower skilled occupations than non-Māori, and earning lower incomes on average³.

OPPORTUNITY OF MARAE AS ECONOMIC CENTRES

Marae are long-standing community assets. They are never sold or repurposed, and come with a community that is committed to its inter-generational responsibility to maintain the *ahi kaa* – keeping the *home fires* burning. There are over 1,000 marae in the country.

³ Statistics and various reports from Education Counts: <https://www.educationcounts.govt.nz> and Stats NZ: <https://www.stats.govt.nz/>

Marae are a logical focal point for digital enablement and are often the centre of the wider community's well-being and cohesion. They are the obvious gathering places during disasters and emergencies as they can immediately cater for, and accommodate displaced groups of people who may be under stress. Micro-economies can potentially spring out of rural marae settings.

In light of this, *Mitimiti on the Grid* was not simply an anomaly in the telecommunications landscape, but a step towards a much bigger goal. It aimed to improve the chances of a marae community participating in an increasingly digital and technology-dependent economy. The aim was to unleash long-term economic, cultural, and social impacts that could be scaled to other marae.

WHAT A SUCCESSFUL PROJECT NEEDS

Community programmes only work in those that already have a certain level of attachment and commitment to *place and community* (Ronson 2017). Particularly for rural marae, this is an inherent characteristic and strength.

Strong leadership and commitment from local leaders are crucial (European Network for Rural Development 2017) as are *Digital Champions* – community leaders who feel responsible for the community's future, are motivators, and are in possession of the skills and knowledge for moving the project forward such as grant-writing and tech-savviness (Ronson 2017).

Success factors include a shared vision, community readiness, a focus on outcomes and relationships, community capacity-building, and long-term and adaptable funding arrangements

(Social Policy Evaluation and Research Unit, Quigley and Watts 2015).

Initiatives should be grounded in cultural concepts, cross-cultural engagement skills (if people not from that community are involved), and a reflection on the impact of colonisation (Social Policy Evaluation and Research Unit, Quigley and Watts 2015).

ASSESSING THE CHALLENGES

Prior to committing several organisations, people and resources to *Mitimiti on the Grid*, it was necessary to identify and assess the challenges. The project team wanted confidence that anything that could potentially prevent implementation or derail the project could be managed. The following sections outline key challenges that led to unique approaches.

CHALLENGE 1 – MARAE REQUIREMENTS

Community projects ideally demonstrate genuine engagement. The recipient community should be in a position to understand, contribute, and formulate the best possible outcomes for itself.

Mitimiti on the Grid sought to facilitate early, strong and sustained engagement while ensuring that local leadership was supported. In this case, the project was initiated by a member of the marae and hapū⁴ who had also worked in the technology sector and alongside government and several Māori groups for some years. Therefore, engagement was aided by existing relationships, the connection to the place, and trust.

⁴ Hapū – subtribe

In the early weeks before the project's initiation, information sharing with the Marae Trust sought to build a common understanding of what a telecommunications infrastructure, internet connectivity and mobile coverage might comprise, and what the impacts might be.

While there was excitement about the opportunities and the potential for positive economic impact, there were also some justified fears. For example, given the very low-level of resourcing, the Marae Trust asked whether they might be compelled to accept low-quality or end-of-life, second-hand technical equipment that would result in poor performance and unexpected future expenses.

However, an essential discussion related to the impact on *tikanga* – the customs and traditional values – and how the juxtaposition of *tikanga* and technology was going to be tested. Ultimately, the Marae Trust wanted to understand how it would maintain its ability to uphold *tikanga* in a new technology-enabled environment.

CHALLENGE 2 – LOCATION AND INFRASTRUCTURE

The minimum technical requirement was access to the fibre. It would provide the backhaul for everything else – the localised mobile coverage device, fibre internet services, wifi and more. Without the fibre there would be no project.

Also, the location presented several challenges including poor access to, and high costs for resources, skills and travel; frequent power outages and floods; and harsh coastal weather conditions. Therefore, the design and selection

⁵ A Marae Trust hui was held at Whaiora marae in Otago on 15 November 2014 to discuss TV3s *DIY Marae* programme and filming day in February 2015. The formal agreement to go ahead with the

of equipment would be influenced by the need for a resilient and rugged solution.

As part of the government's *Rural Broadband Initiative*, telecommunications infrastructure company Chorus had recently laid fibre to the local school that ran past the marae, some 140 metres away. Mitimiti needed permission to connect to the RBI1 school fibre. If the company agreed, it would make Mitimiti a frontrunner site with a technical solution was going to be unique and untested.

CHALLENGE 3 – FAST DECISIONS

Most small marae trusts combine governance and operations together and the decision-making processes enable people to fully consider the options and implications – with past, present and future generations in mind. The style is consultative and inclusive, and doesn't generally favour a rushed approach. It is not unusual for important decisions to be considered across a sequence of monthly meetings.

The Marae Trust at Mātihetihe marae also operates in this manner. However, the project timeframe from the date that it gave its formal agreement to go ahead⁵ to the *go live* date at the end of February 2015, was just three and a half months. In addition, New Zealand's long summer, Christmas and New Year holiday season meant that for several weeks many key people would be on holiday.

There was a strong incentive to make decisions and to act fast as the opportunities would unlikely come around twice. The project needed to respond quickly to limited-time offers for equipment and skills, and to take advantage of

telecommunications project and to align it with the programme's renovation dates and *reveal* day was given at that hui.

any contract work that was being scheduled in the area and that would bring much needed electricians, diggers, cherry pickers, fibre maintenance crews, etc.

Therefore, the challenge for the Marae Trust was in understanding how it could make fast decisions in a sector that its members had little experience in, while maintaining its fundamental remit to protect the interests of its community.

CHALLENGE 4 – MANAGING REMOTELY

Māori cultural practices include a preference for *kanohi-ki-te-kanohi* (face to face) meetings particularly amongst older people who value the concept of sharing the *hā* – the air that we share and that connects us together when we are in the same space.

However, there were multiple organisations, people and resources from all over the country to coordinate and manage. With the marae a five-hour drive north of Auckland and most of the tech team in full-time work either in Auckland or Wellington, frequent trips back and forth (and probably only on weekends) would present a considerable risk to the project's success.

The core *tech team* would need to design the solution, and provide equipment and expertise together, from wherever they were. Also, equipment needed to be delivered, checked, tested and prepared before being brought on site.

CHALLENGE 5 – SUSTAINABLE SOLUTION

International research shows that technology projects in remote communities, where

⁶ <https://ufb.org.nz/>

resources and infrastructure are low, are often short-lived and don't deliver their intended visions. Non-profit organisations (NGOs) and academics may bring products, services, usage models, expertise, and research from their high-income contexts that are *made to fit* into what are often much more challenging environments.

When the projects don't work, or are too expensive to be replicated at any scale, this is taken as evidence that the technology use in such places is irrelevant and possibly irresponsible (Trucano 2014).

It was crucial to learn from those experiences. Additionally, this project needed to survive changes of government, rapid innovation in the telecommunications sector, dependencies on key people, and no or low funding.

HAPPY COINCIDENCES

Since 2009, all requests to consider Mitimiti for mobile coverage and fast broadband had been unsuccessful, but the *story* of Mitimiti had become well-socialised and was an exemplar for communities that experienced inequity of connectivity in New Zealand.

When the Ultra-Fast Broadband (UFB)⁶ fibre internet initiative that sought to build fibre-to-the-home was being consulted on, the government's population threshold excluded all towns north of Whangarei – with Whangarei being 180 kms or a 2-3 hour drive and a harbour crossing away from Mitimiti. Then, unexpectedly two timely coincidences created an opportunity.

1. Access to the school's RBI fibre

As part of the Government's Rural Broadband Initiative (RBI1), telecommunications infrastructure company Chorus had recently laid

fibre to Mātihetihe School. It was one of just 49 remote schools that would be connected.

Despite the government's intentions during earlier consultation for the schools' fibre to also be available to local rural communities, they were blocked from access until the then Associate Education Minister Nikki Kaye reversed that decision in 2014, enabling Mitimiti to access the school's fibre – just 140 metres from the road.

2. Acceptance by national television's DIY Marae programme

After successfully applying to TV3's *DIY Marae* programme to have the *wharehui*⁷ refurbished, the marae was scheduled for an episode to be filmed over one weekend in late February 2015. The walls and roof would be replaced, electrical components rewired across three buildings, and more. Several 'tradies'⁸ and around 200 volunteer workers would be on site.

It was an opportunity to simultaneously build the physical network, which included installing CAT5 network cables into the walls and ceilings of all three buildings, at no extra cost to the marae. The programme was to be broadcast on national television and so also created a promotional opportunity for potential sponsors.

BEING READY

Access to the school's fibre and the DIY Marae programme meant that the project appeared within reach *as long as the challenges could also be met*. The goal was to set the project up for success and that meant *being ready*.

⁷ While most marae refer to their main building as 'wharenuī', Mātihetihe Marae refers to its as 'wharehui'. It is the main building or 'house' used for formal gatherings.

Marae Trust readiness

In essence, the foremost readiness requirement for the Marae Trust would need to be centred around the concept of *confidence*. This would manifest in any new processes they employed for decision-making, the certainty that they could manage the intersection between the technology and tikanga, the trust in the people and the information they were being presented with, and the belief that once delivered, the project could be sustained.

Tech team readiness

The tech team needed to cooperate with each other and the Marae Trust to find comprehensive solutions against a very specific and imperfect technical backdrop. This group had to be available long-term to provide continuity of management and maintenance of the network, and later, to scale the project. Their readiness would be centred around *collaboration* and *commitment*.

Sponsor readiness

Any sponsors would be offering their existing products and services. They needed to move towards a way of working that was underpinned by a cultural worldview they were not necessarily familiar with. Their involvement would potentially be public-facing and so their readiness would be centred around developing an understanding of *cross-cultural integrity*.

By now, it was clear. People and organisations that had never contemplated working together before, were required to work side-by-side towards a brand new shared goal, in a very short

⁸ Professional trades-people including electricians and builders.

timeframe, with almost no resources, and in one of the most remote marae in the country.

NEXT IN THIS SERIES

The third white paper will provide further detail on what being ready meant *on the ground* – including how the marae reconfigured its decision-making processes, how urban-based technical volunteers interacted in a cultural setting that was for them unfamiliar, and how putting people from competing companies together into a tiny room created telecommunications magic.

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SPONSORS

E tuku ake nei te mihi aroha kia koutou ngā kaitautoko. We’d like to thank the following sponsors for their continued support for these white papers and Mitimiti on the Grid.

