

Number Eight Fencing Wire: New Zealand, Cultural Innovation and the Global Silicon Network

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Abstract

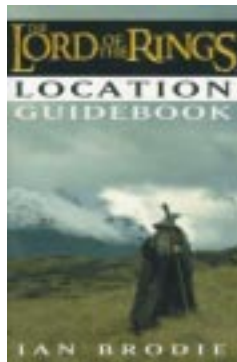
Silicon places, such as California’s Silicon Valley, Bangalore, Dublin, Taipei and Nordic Europe, form a network of culturally, socially and economically intertwined technoscapes. Some regions, such as Silicon Valley, have been participating in a high-tech sector for decades. Others, such as the emerging silicon concentrations in Christchurch, New Zealand, are relative newcomers. New Zealand struggles with inventing strategies for participating in the global high-technology sector to generate wealth, and yet not compromise other aspects of its civic culture and identity. Its nascent silicon identity is based on several assets, including a cultural tradition of “inventive-ness,” a solid base of tertiary education, big science spin-offs from Antarctic research and active networks supported by informal and formal partnerships. At the same time, political economy, interethnic and intercultural tensions, a small population and geographic isolation are constraints that will shape the future of New Zealand’s global participation.

This poster is based on ethnographic observations and interviews with various individuals in the New Zealand government, education and industry sectors in July 2002. These observations and interviews are placed within a comparative framework of ethnographic research done by C. Darrah and myself in Silicon Valley, Dublin, Bangalore, and the Taipei/Hsinchu corridor over the last decade. In addition to outlining the major forces acting on silicon place formation, this poster outlines the conflict between local life and global interaction resulting from the tensions between creating an identity suited to global technological participation and existing ethnic, cultural, and regional differences.

Why New Zealand?

New Zealand fills a particular niche within the global silicon network as an emerging silicon place. As such it forms the basis for a comparison with more established silicon places such as California’s Silicon Valley, Bangalore, Dublin, Guadalajara, and the Taipei/ Hsinchu corridor. It illustrates the tensions between state-planned sites—such as Auckland’s Silicon Bay—and places that emerge organically—such as Christchurch’s Silicon Plains. Finally, it provides insights into other emerging silicon places, such as Vilnius, Lithuania.

New Zealand has been ironically nominated as “Best Supporting Land Mass” due to the Lord of the Rings. “Creatives” are an emerging asset, evidenced by Peter Jackson’s army of high-tech animators and designers. LOTR is an asset recognized by TradeNZ and InvestmentNZ and others to be leveraged for tourism, film creation and techie cachet. While Wellington is the center, Christchurch, Dunedin, Nelson and Auckland contribute to the innovative gestalt.



Twizel was a production site for Lord of the Rings, which in turn has spawned the “Frodo economy”

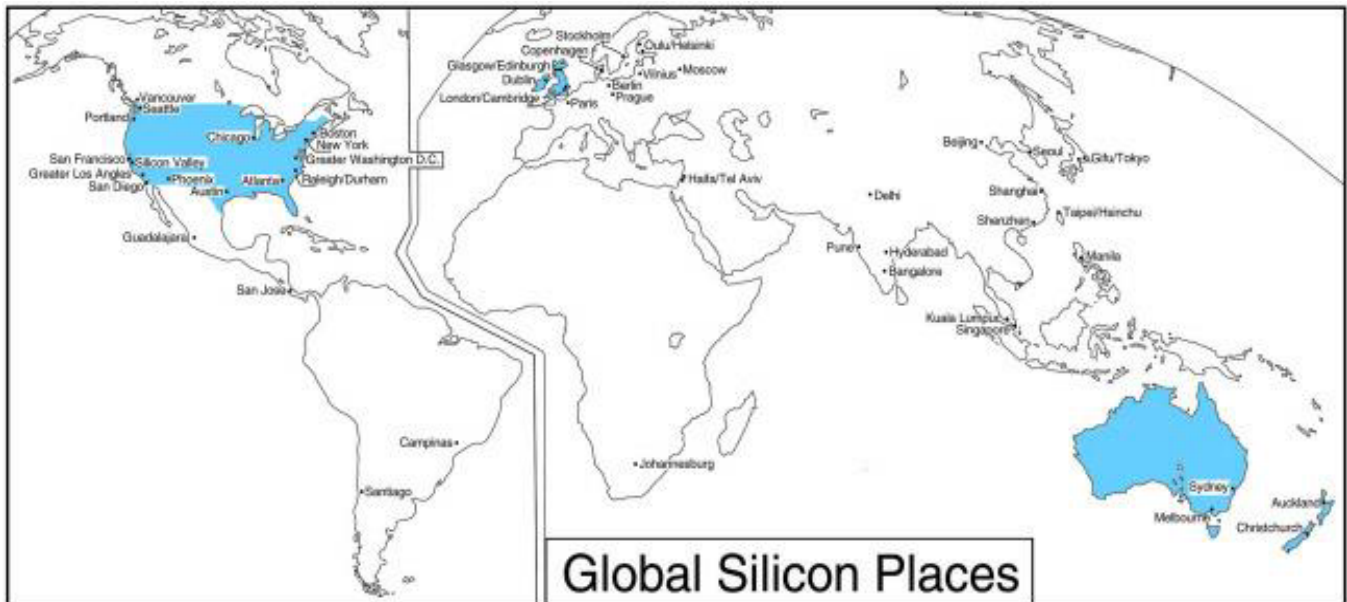
Prosaic Explanations for Silicon Places

Explaining technopoles, has become formulaic:

- > 2 Universities with applied business parks”or silicon places,
- + Big Science
- + Flow of Capital (human, fiscal and technological)

Equals a Silicon Place

In Christchurch a cluster of universities—Canterbury and Lincoln—as well as universities in Wellington, Dunedin and Auckland, complement the big science associated with Antarctic research and agriculture. Partnerships with Christchurch’s city council, sponsorship from the Ministry for Research, Science and Technology (MoRST) and the Foundation for Research, Science and Technology (FRST) and the national organizations of IndustryNZ, TechnologyNZ and TradeNZ support economic growth. Historic agricultural and electronic industries train people and give them technical skills.



Alternative Frameworks for Understanding Silicon Places

Such formulaic explanations leave little room for exploring cultural creation, positionality, and the role of place within the larger global silicon network. Different research questions can yield a more nuanced view. For example, if creating a silicon place identity involves consciously “branding” a community, how do various cultural narratives and practices influence this process? How does history, particularly the colonial legacy, shape these narratives and practices? How is this process viewed from the perspective of different stakeholders? Where are the tensions and contradictions that emerge from the process of community commodification? Where do work, educational and governmental organizations fit into everyday choices and experiences? How do competing forms of social organization, such as networks and company cohorts, play out in the way the community works? What are the assets and deficits that emerge from existing social structures? What are the consequences of producing a silicon identity for various stakeholders? Pakeha? Immigrants? Maori? University educated male engineers and the working mother equivalent of the “ordinary bloke?” What futures can be anticipated within the context of this choice?

Cultural Narratives and Practices

A rhetoric of frontier inventiveness is imbedded in the New Zealander idea that anything can be fixed with #8 fencing wire. The creation of the innovative Britten racing motorcycle is another icon of invention.

Ernest Rutherford, the nuclear physicist, has become legend as “the story of a Kiwi genius.” His favorite aphorism, “We have no money therefore we must think” adorns workspace walls and is ironically invoked.



New Zealanders know they are at the “End of the World”

The last stop out before Antarctica, New Zealand has created a narrative around being at the “ends of the Earth.” A tolerance for quirkiness is something that informants viewed as integral to New Zealander’s ability to innovate.

Niche research and development are key to New Zealand’s place in the global silicon network. They do not develop revolutionary technologies, but refashion and apply existing ones. Examples include creating a technology for spraying bees with precise amounts of pollen to deliver to crops, converting airbag sensors into cheap but sensitive seismic detectors, niche search engines, or programs that can record and reproduce key strokes.



Startups create niche technologies

“Clean and Green”

Developing outdoor clothing designs, selling outdoor experiences and a healthy active lifestyle are part of the “clean and green” image that redirects the traditional wool industry and provides an ethos for attracting tourists, specialized immigrants and bringing back Kiwis who fled overseas.



“Clean and Green”

Networks and company cohorts

Now sponsored by the Canterbury Software Cluster, a Friday night “techie BBQ” forms a predictable venue for entrepreneurs and creatives to network. Electronics/software firms such as Tait or Jade form incubators for technical expertise.

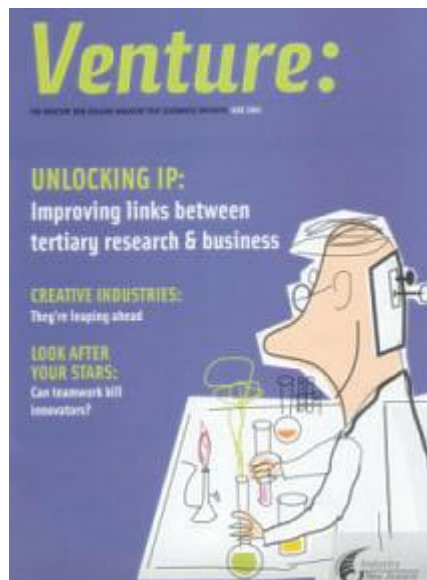


Techie BBQ's met every Friday in downtown Christchurch

Strategies and Organizations

Unlike Ireland, whose strategy was to leverage the presence of multinational corporations into incubators for Irish indigenous technology companies, New Zealand begins with local niche innovation and then sells assets to multinational corporations hoping they will stay onshore. Partnerships between industry and universities, such as Canterprise, have been problematic. Venture capital is not widespread and innovators tell stories about being forced to mortgage real property to get start-up funds. Organizations such as TradeNZ, IndustryNZ and TechnologyNZ, nurture and

incubate entrepreneurs. Those entrepreneurs may get caught between these organizations as they compete with each other. Novel approaches may be lost between the cracks or fall prey to shifts in policy, such as the governmental policies towards biotechnology and GM (Genetic Modification).



History...

For more than a hundred years the New Zealand economy was focused on the sheep-based “protein industry” providing these agricultural exports for the former British Empire. Left to fend for themselves with the rise of the European Economic Community they struggle to find new markets and exports. Will the Internet be the “freezer ship” of the twenty-first century?

Pundits have criticized the culture of complaint, dependency, and xenophobia that are attributed to the colonial legacy. That legacy can be seen in older Anglicized immigration preferences and in contemporary preferential trade partnerships with Australia, the U.S. and the U.K. Yet the present of Asia and Polynesia is pronounced, especially in Auckland.

The OE, “the Overseas Experience,” is considered a cultural prerequisite for being a proper New Zealander, although it is not always practiced. It sets the stage for the necessary global connections and potentially damaging emigration. “It’s part of Kiwi creativity to get out and understand other cultures.”

Tensions and Contradictions

Regional identity is strong and divisions between North and South Island, Pakeha and Maori, New Zealand and Australia, Antipodes and Eurasia/North America make it difficult for New Zealanders to create strategic alliances or to present a coherent national “brand.”

New Zealand seeks to establish a global identity as “clean and green” to promote lifestyle immigration, tourism and organic agricultural exports. Yet at the same time, it is being admonished by government and high-tech gurus—such as Oracle’s Ellison—to concentrate on biotechnology. This conflict was a major issue in their 2002 election.

Priority Occupations List

New Zealand Immigration Services
11 Bridge Street

The Priority Occupations List is a list of occupations that are in demand in New Zealand. It is used to determine the priority of applications for visas and work permits. The list is updated regularly to reflect changes in the New Zealand labour market.

The Priority Occupations List is divided into two categories:

- Short-term occupations (up to 3 years)
- Long-term occupations (more than 3 years)

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- Long-term occupations (more than 3 years)

Occupation	Category	Skills Requirements	Comments
Accountant	Short-term	Accounting qualification	Accounting qualification in New Zealand or equivalent overseas qualification
Architect	Short-term	Architectural qualification	Architectural qualification in New Zealand or equivalent overseas qualification
Business Development Manager	Short-term	Business development qualification	Business development qualification in New Zealand or equivalent overseas qualification
Chemist	Short-term	Chemistry qualification	Chemistry qualification in New Zealand or equivalent overseas qualification
Construction Manager	Short-term	Construction management qualification	Construction management qualification in New Zealand or equivalent overseas qualification
Finance Analyst	Short-term	Finance qualification	Finance qualification in New Zealand or equivalent overseas qualification
Health Care Worker	Short-term	Health care qualification	Health care qualification in New Zealand or equivalent overseas qualification
Information Systems Analyst	Short-term	Information systems qualification	Information systems qualification in New Zealand or equivalent overseas qualification
Marketing Specialist	Short-term	Marketing qualification	Marketing qualification in New Zealand or equivalent overseas qualification
Project Manager	Short-term	Project management qualification	Project management qualification in New Zealand or equivalent overseas qualification
Software Developer	Short-term	Software development qualification	Software development qualification in New Zealand or equivalent overseas qualification
Systems Administrator	Short-term	Systems administration qualification	Systems administration qualification in New Zealand or equivalent overseas qualification
Technical Writer	Short-term	Technical writing qualification	Technical writing qualification in New Zealand or equivalent overseas qualification
Training and Development Specialist	Short-term	Training and development qualification	Training and development qualification in New Zealand or equivalent overseas qualification
UX Designer	Short-term	UX design qualification	UX design qualification in New Zealand or equivalent overseas qualification
Video Production Specialist	Short-term	Video production qualification	Video production qualification in New Zealand or equivalent overseas qualification
Web Developer	Short-term	Web development qualification	Web development qualification in New Zealand or equivalent overseas qualification
Business Development Manager	Long-term	Business development qualification	Business development qualification in New Zealand or equivalent overseas qualification
Finance Analyst	Long-term	Finance qualification	Finance qualification in New Zealand or equivalent overseas qualification
Health Care Worker	Long-term	Health care qualification	Health care qualification in New Zealand or equivalent overseas qualification
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Anti-Asian sentiments inhibit trade connections and complexify immigrant politics. Asian populations are concentrated in Auckland and Christchurch. Educated Asians are the fastest growing immigrant segment and the one of the segments most likely to have Internet access at home.

Non-agricultural export entrepreneurs, techies or creatives, are a new force in New Zealand. Interaction with Asian markets requires expertise, and much closer cultural and linguistic ties bind New Zealand to Australia, the United States and the U.K. This limits the use of Asia as market, source for talent, or vendor, inhibiting the global flows so vital to a silicon place.

Assets and Deficits

The weight of University loan repayments, which often precludes home ownership or fiscal solvency for postgraduates or professionals, drives young talent offshore where the relative strength of U.S. or U.K. currency makes repayment faster and more predictable. Industry elites hope that the attraction of the New Zealand lifestyle will lure them back home and convert a brain drain to a brain circulation. Meanwhile, keeping a density of talent in new Zealand is the key to attracting foreign capital and maintaining indigenous incubators. Low wages attract offshore investors, but exacerbate the problem for graduating students.



Loan repayment is an issue for converting brain drain into brain circulation.

Whose Silicon Identity?

Although the Maori have used websites and film (Once were Warriors and Whale Rider) to create an international presence, they are a clear minority within the techie networks. They have different networks and a place attachment to Aotearoa, not Silicon Plains. Most of the South Island high-tech activity is Pakeha.

Global work patterns that drive 24/7 access directly contradict the New Zealander belief in the sanctity of weekends off and the centrality of family time. Tourism, high-tech work and the halo of services that surround them mean a shift in work rhythms. To Parthena, a working mother with several jobs and an Internet used clothing business, this means not being able to create family time and requires a new social skill—juggling busyness.

A pattern has developed of New Zealanders creating new ideas, approaches and products only to be bought out by Americans, Australians, and British interests. While this generates wealth in the short term, it may merely be a new form of mutton colonialism. In the long term, where will the newly generated wealth reside?

Consequences and Futures

New Zealand is ambivalent about its place in the global economy. Does it want to be an economic player, or does it want to preserve its “ends of the world” identity as a “better Britain?” Does it want to be “clean and green” or does it want to create a high-tech niche? Can it do both?

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