### 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 "inventiveness," 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 a comparative framework of within 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.

Bay of Islands

AUCKLAND

NORTHLAND

0 100 200

Explaining technopoles, or silicon places, has become formulaic.

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.

# Why New Zealand?

New Zealand fills a particular niche within the global silicon network as an *amarging* silicor

place. As such for a comp established sil California's Bangalore, D and the Taipe It illustrates th state-planned Auckland's places that er such as Chr Plains. Fii insights into silicon places Lithuania.



## Prosaic Explanations for Silicon Places

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

#### **Equals Silicon Place**



## Alternative Frameworks for Understanding Silicon Places

Such formulaic explanations leave little 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? do work, educa-tional 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?

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.

**Startups create niche technologies** 

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.







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.

## Cultural Narratives and Practices



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 quirkiness for something that viewed as informants New integral to Zealander's ability to innovate.

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