

# NZ Earthquake Engineering Technology Business Cluster: From Concept to Reality



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David Hopkins  
*Sinclair Knight Merz*

Tan Pham  
*AC Consulting Group*

Richard Sharpe  
*Beca Consultants*

Graeme Carroll  
*Wellington City Capital Development Agency*

**ABSTRACT:** The New Zealand Earthquake Engineering Technology Business Cluster was formed in 1998 to bring together New Zealand earthquake engineering skills and sell them offshore. Following a Wellington City Council/Trade NZ initiative, practitioners agreed that the formation of a “Business Cluster” was well worthwhile. This paper outlines the objectives, achievements and aspirations of the Cluster, and looks at some recent and current activities.

## 1. Establishment of Cluster

The NZ Earthquake Engineering Technology Business Cluster was established with the support of the Wellington City Council and the Council’s Capital Development Agency three years ago. This occurred through a process of background interviews, a discussion paper, workshops and an establishment Steering Group chaired by David Hopkins and co-chair Andrew Charleson.

The motivation for the establishment of the Cluster is summed up in remarks made by David Hopkins at the launch of the Cluster web site in November 1998:

*The education, training and experience of New Zealand professionals involved in “earthquake engineering”, coupled with their in-built ‘kiwi ingenuity’, has produced a remarkably capable and diverse resource with an international reputation.*

*Engineers, scientists, planners, architects, insurers, manufacturers, researchers, economists, risk analysts, disaster response planners, social scientists are all included in the wide definition of “earthquake engineering”. All these people contribute to our understanding of, preparedness for, and response to major earthquakes.*

*NZ earthquake engineers have applied their skills overseas, not only helping other communities, but earning overseas currency for their country. Development of codes of practice, advice on reconstruction after major earthquakes, design of major projects, and education of graduate students are examples.*

*NZ professions are well received overseas, not only for their knowledge and competitive rates, but for their culturally sensitive, no-nonsense approach and attitude.*

*We want to use the NZEETBC to build on this reputation, not just in a technical sense but to make something of it commercially. Why not, in this age of globalisation, build an international centre of earthquake engineering excellence in NZ.*

*The Cluster's target is not those jobs which individual firms would get through their own efforts anyway, but additional work resulting from the interaction of the various disciplines fostered by the Cluster concept.*

*The focus on earthquake engineering as a revenue earner will provide the incentive to maintain and develop this country's international position as a leader in the development and practice of earthquake engineering.*

The Cluster is Wellington based but with a New Zealand wide breadth. The Cluster concept has proven to be an important success factor in the economic development wealth growth of a number of places around the world, including in several parts of northern Italy (eg Treviso) as well as more recently in parts of the US (eg Tuscon) and Canada. Keys to the success of these cluster initiatives include focusing on a specialisation (eg in Wellington NZ on earthquake engineering!) and building a strong brand identity for this specialisation internationally.

The Cluster web sit, [www.earthquakeengineering.com](http://www.earthquakeengineering.com) was officially launched in November 1998 by Wellington city Mayor Mark Blumsky.

The Cluster, which is a registered Incorporated Society, has grown to having 30 financial members, comprising a mix of companies, research organisations and universities (including Massey, Victoria and Auckland Universities). Collectively over 5,000 professional and technical personnel are involved under this umbrella.

## **2. The NZ MEER Consortium**

The NZ MEER Consortium was set up to identify and follow up on earthquake engineering business opportunities in Turkey. MEER refers to the World Bank supported Marmara Earthquake Emergency Reconstruction Project in the hardest hit area of Turkey – a project spread over 3-5 years of reconstruction. The consortium was formed by the following nine members of the NZ Earthquake Engineering Technology Business Cluster who elected to join forces and share costs of promotion and bidding for the work in Turkey.

- ❑ AC Consulting Group
- ❑ Beca International Consultants
- ❑ Building Research Association of New Zealand
- ❑ Connell Wagner
- ❑ Institute of Geological and Nuclear Sciences
- ❑ Holmes Consulting Group
- ❑ Opus International Consultants
- ❑ Robinson Seismic
- ❑ Sinclair Knight Merz

The consortium formed an Export Network with 50% funding of direct costs by Trade NZ to bid for a World Bank – funded project in Turkey. This project is one among several funded by the World Bank and other donors as a result of the destructive Marmara earthquake in 1999. The Cluster is working closely with Trade NZ and MFAT officials and other networks as part of these marketing initiatives.

Richard Sharpe of Beca International Consultants is the Project Director for the Cluster's NZ MEER Consortium and Tan Pham, CEO of AC Consulting Group, is Project Manager for the NZ MEER Consortium. It was the first time that a consortium of such size was formed to seek a specific market, i.e. in earthquake engineering.

The strength of the consortium showed when it was short-listed among 200 expressions of interest worldwide. Unfortunately, it did not manage to win the contract that it tendered for. It came a close

second and the winning bid went to an Indian company. It is clear, however, that the bid did much to raise the profile of NZ earthquake engineering in Turkey and with the World Bank.

The consortium continues to be active. It has submitted an EOI for the recently tendered TERRA1 housing reconstruction project, and a sub group of members is currently mounting a bid to the Municipality of Istanbul for a major seismic risk study, with fees of around US\$2M.

### **3. Other International Opportunities**

The Cluster has provided a focal point for promoting New Zealand's earthquake engineering expertise, which is in itself a significant step.

As a result of a mayoral delegation from Tianjin China, a project team is planning a workshop on Wellington/Tianjin Earthquake Mitigation due to be held in Tianjin later this year. The Liaison Committee for this is chaired by WCC Quality Assurance Manager Kevin Murphy.

California continues to be on the agenda, with the Cluster giving support to the handful of key companies who have broken into this important market. The next 12 months is expected to see this gain momentum as these companies make further progress with projects there and seek additional sub contracted/outsourced resources from other Cluster members.

Other longer term project initiatives are also being explored in other places including the Philippines and Central/South America.

One project, in the Philippines, is focused on the provision of earthquake engineering education.

Cluster members are also looking for opportunities to assist in the wake of the devastating earthquake in Gujarat, India. Various options and proposals are being explored – early days yet in what will be a major reconstruction process spread over some years.

World Bank representatives visited New Zealand in August 2000 and spent two weeks looking at what we had to offer. Their favourable impression suggests that pursuit of advisory and other work for World Bank would be worthwhile.

### **4. Summary**

The support of the Wellington City Council and its Capital Development Agency (including its associated consultants who are part of the Wellington Business Clusters Project Team) has been critical to the establishment and success of these clusters, along with supportive assistance from Trade NZ, and in particular the input from the members themselves. The increasing awareness by MFAT officials (as well as Government Ministers) of the existence of the NZ Earthquake Engineering Technology Business Cluster as a significant and credible grouping is an important factor in helping get progress,

We now have an identified “brand” which helps Cluster members to achieve credibility quickly.

Forming consortiums to tender for contracts is not new. What is new is the focus on earthquake engineering as key expertise for export for New Zealand.

While to date the consortium has yet to secure overseas contracts, it has proved to be a very useful vehicle for the “NZ Inc.” approach. The MEER bid demonstrated that Cluster members could work enthusiastically and well together and that they needed to collaborate to generate the critical mass and credibility to win major assignments in the face of international competition.

The Cluster looks set to play a key role in developing New Zealand's earthquake engineering skills and maintaining our international standing in the field, both professionally and commercially.

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