

## **NEW BHUJ HOSPITAL COMPLETED WITH EARTHQUAKE ENGINEERING NZ TECHNOLOGY**

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The completion of the new earthquake-resistant Bhuj District Hospital in India's earthquake prone Gujarat State is a particularly satisfying achievement for members of the Wellington-based Earthquake Engineering NZ business cluster, says EENZ Chairman David Hopkins.



The 300-bed Bhuj hospital replaces the building that claimed 176 lives when it collapsed during the major January 2001 Gujarat earthquake. This is the first new building in India to be fitted with the earthquake-resistant NZ developed base-isolation technology. The hospital's base isolation design and bearings have been provided with the assistance of Earthquake Engineering NZ members.

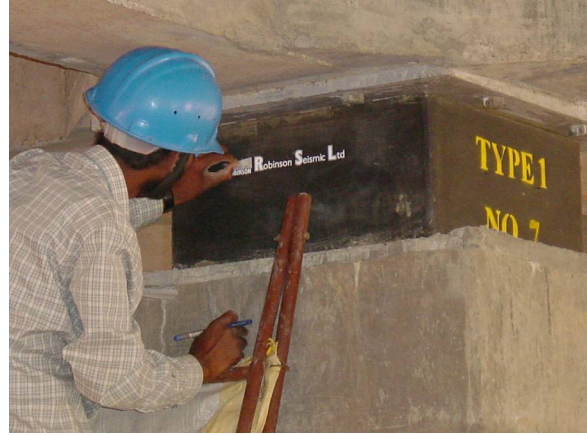
A bi-lingual Hindi and English video has been made by Story!inc and Execam of the Creative Capital Cluster of the achievement of rebuilding the new Bhuj hospital within two years of the earthquake by India's leading architects, engineers and construction firm working with the assistance of New Zealand's specialist earthquake engineering expertise. Trade NZ, Industry NZ and Cluster members have sponsored the making of this video for use in India.

The Indian design team for the hospital has been led by architect Uday Pattanayak of EFN Ribeiro Associates, New Delhi, and Structural Engineer Kamal Sabharwal. The construction company is India's largest, Larsen & Toubro.

Cluster member Beca's internationally renowned seismic expert Richard Sharpe was working on a project in India at the time of the earthquake. With the assistance of the New Zealand Government and support of the Earthquake Engineering NZ cluster he was able to identify the reconstruction of the Bhuj hospital as a suitable project for New Zealand's earthquake engineering assistance. He recommended that the replacement hospital be fitted with New Zealand developed base isolation lead rubber bearings. This robust technology is well-suited to construction styles in India.

The specialist computer-based earthquake-resistant base-isolation building design work was undertaken in Wellington by fellow cluster members Holmes

Consulting Group and Dunning Thornton Consultants, with the bearings manufactured and supplied by Robinson Seismic Ltd. The lead-rubber bearing technology was invented by Cluster member Bill Robinson.



The New Zealand Government contributed \$ 150,000 to the cost of the project base-isolation feasibility study and design work as part of the initial disaster recovery stage. The Indian Prime Minister's Relief Fund funded the hospital construction, including the cost of the Robinson Seismic Ltd bearings.

Other follow-up project opportunities In India worth several millions of dollars are being pursued by members of the Earthquake Engineering NZ and associated Natural Hazards NZ business clusters. These include further base-isolated building projects as well as several World Bank funded disaster risk management projects.

For further information:

David Hopkins  
Chairman  
Earthquake Engineering NZ  
Phone: +64 4 384 3903

Bill Robinson  
Co Chair  
Earthquake Engineering NZ  
Phone: +64 4 569 7840

Mack Morum  
Project Manager  
Bhuj Hospital Project  
Earthquake Engineering NZ India Export Network  
Robinson Seismic Ltd  
Phone: +64 4 569 7840 and +64 25 341 668

Richard Sharpe  
Beca Group  
Phone: +64 4 471 5506

Graeme Carroll  
Cluster Facilitator  
Phone: +64 4 470 5554