Beacon (Earthquake Monitoring)

2015-Present

Client

Beca Structural Engineers to sell their services to other clients. ANZ is the first client, NZ Post, BNZ, Westpac hoping to sign up later.

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Description

Beacon (Earthquake Monitoring) was developed to create a rapid response system for earthquakes within New Zealand for Beca's clients. It stores client's property and asset portfolio, including vulnerability factors and adherence to the New Building Standard (NBS). We use the Geonet API to retrieve the information about earthquakes. When an earthquake occurs we run proprietary algorithms across all of the buildings to prioritise those most likely to have been damaged. Text and email alerts are automatically sent, which include maps of the earthquake location, nearby properties and any potentially damaged buildings which need inspections. If there are affected assets we then sent out both text and email alerts. The email alert contains a map which shows the earthquake location and any assets that are around the same area. Affected assets are shown in red to be flagged for inspection.

Main Benefits

After an earthquake, the Beacon system gives clients confidence which of their properties need to be inspected and which can safely stay open. Traditionally a structural engineer would have to spend around 4 hours to generate a report for the client which does the same calculations on whether or not there is likely to be damage to the buildings. Using the Beacon system they now have the same information within minutes of the earthquake. This greatly reduces risk since the earthquake might occur when no engineers are available and especially during a major event there may be a lot of confusion and chaos.

This system is better than just getting alerts from Geonet since it is context specific and uses the information we have gathered to do some smart calculations to alert you to the severity level of the incident tailored specifically for that customer's assets.

The structural engineers see this as an add-on service as well where the client can sign a guaranteed service level agreement so the client can know for sure that we will be available to help during a major event.
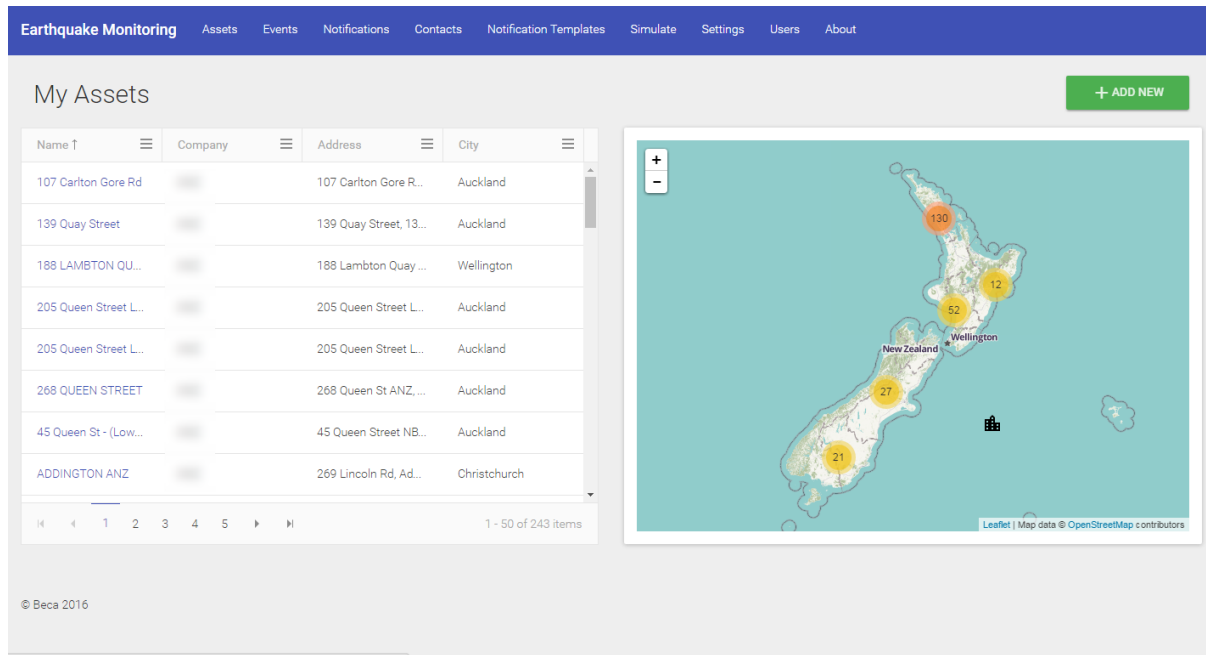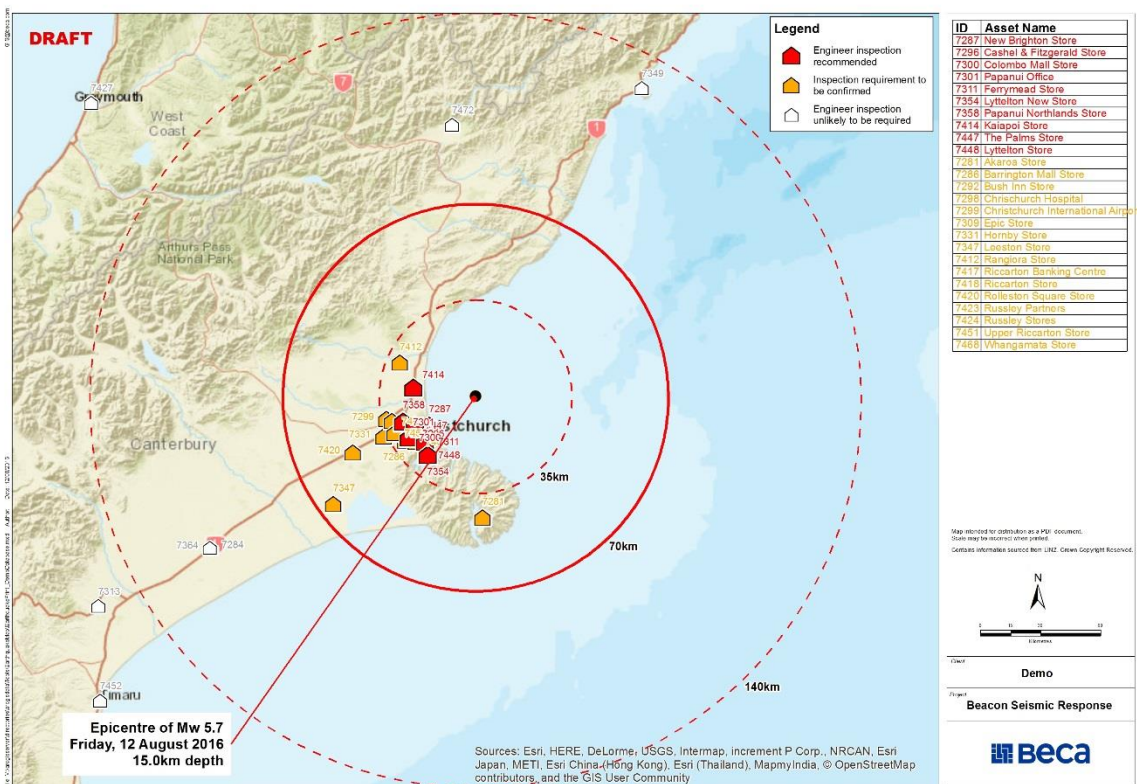
Screenshots

Figure 1: Beacon homepage

Figure 2: Example of the map generated in the email

Photos

1-4 shots of the software in use (User + screen / device) or of the context in which the software is used. Record permission from the client to use these internally/externally.

Quotes

Quotes from users / clients about the benefits of the software or how much they like it. Record permission from the client to use these internally/externally.

Demonstrated Capabilities

- Cloud hosted infrastructure
- Storing data from multiple customers
- External single sign-on
- GIS integration with software
- Working together with other parts of Beca to create better value for the customer
- Enhance our engineering expertise with technology

Technologies

- Microsoft .NET MVC
- Azure web services
- Single sign-on
- Leaftlet maps integration
- ESRI maps integration

Beca Applied Technologies Contact

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