

CASE STUDY

Kapiti Coast District Council

ENGAGE 3D PRO FULFILLS A VARIETY OF STATISTICAL AND REPORTING REQUIREMENTS THAT HELP COUNCIL CREATE POLICY, MANAGE DEMAND AND MEET GOVERNMENT REPORTING REQUIREMENTS.

"WE CAN SLICE AND DICE THE DIFFERENT FEATURES WITHIN ENGAGE 3D PRO TO MEET OUR SPECIFIC REQUIREMENTS."



Challenge

As one of the fastest growing population areas in New Zealand, Kapiti Coast District Council needed to develop a comprehensive strategy and plan for future community sustainability. Central to achieving this objective was the need to gain a accurate, and more visual insight for better and sustainable decision making.

Solution

Having been a long-term user of MapInfo Professional, which was originally implemented over ten years ago for planning and development purposes, the Council decided four years ago to enhance its future planning with Engage3D Pro from Pitney Bowes Business Insight. This three-dimensional mapping tool delivers a new capacity to better understand planning decisions and slice data in 3D to focus on specific GIS requirements.



SUMMARY

The Kapiti Coast District Council is located 50 minutes drive north of New Zealand's capital city, Wellington. With a resident population of 46,200 (an increase of 8.8 per cent from 2001 to 2006) it is one of the fastest growing population areas in New Zealand. In an area undergoing such a quick growth rate the need for sustainable planning is paramount.

More Functionality and Flexibility

With the passing of the Local Government Act 2002 which increased requirements for New Zealand's 85 local authorities to consult with the public on major projects and future planning, Kapiti Coast District Council decided to invest in a series of IT solutions which could provide accurate insight for better decision making. The Council has a range of projects which require public consultation. Pitney Bowes Business Insight solutions are being used to reinforce compliance with the Act, which emphasises the importance of communities and gives local authorities the power to play a leading role in promoting the wellbeing of sustainable development.

Following a review of market solutions to support the Council's existing GIS capability, Engage3D Pro was deployed. Engage3D is a desktop geoscientific and GIS software data management tool that seamlessly integrates with MapInfo Professional and is one element to assist Council with future public consultation and planning.

Engage3D Pro provides users with the ability to move 2D objects into 3D or drag-

and-drop in data from external sources. Any map window in MapInfo Professional can be quickly viewed in 3D as a georeferenced image.

In addition to a powerful 3D capability, Engage3D provides an extensive range of tools to boost productivity of MapInfo Professional, including powerful raster handling, object editing and topology clean up, polybuilding, scaled map output and interactive graphical data exploration. Gridded surfaces can be loaded directly into the Engage3D window or added as part of a georeferenced drape from the 2D map.

Over the past four years, Engage3D Pro has been used by Phil Wall, GIS Manager at Kapiti Coast District Council, and his team to produce information for public consultation and planning.

"Initially, Engage3D Pro was used to assist the Council in providing a platform for visualising our LIDAR (Light Detection and Ranging) terrain modelling data, for example in the Council's local road design projects with the LIDAR itself initially primarily used for flood hazard modelling. However, the Council has an ongoing range of projects which require public consultation.

"We can slice and dice the different features within Engage3D Pro to meet our specific project requirements but, as a complete solution, we use it to fulfil a variety of statistical and reporting requirements that help the Council to create policy, manage demand and meet government reporting requirements.

“ENGAGE3D PRO IN CONJUNCTION WITH MAPINFO PROFESSIONAL, HELPS US MEET OUR COMMUNITY REQUIREMENTS AND GAIN AN ACCURATE PICTURE IN THE THIRD DIMENSION OF OUR NATURAL AND MAN-MADE ASSETS.”

Phil Wall, GIS Manager , Kapiti Coast District Council

RESULT

“For example, we use it to enhance map layouts where we can overlay coordinated grids over a particular area. At the same time, we’re also able to capture different data sources, for example CAD drawings of buildings, and can then overlay this information on the ground terrain. One application we mainly use this for is in cartographic enhancements to maps where we can include the title block, legend and coordinate grids.

“Last year, we created a large wall map for our new civil defence centre using Engage3D Pro. It enabled us to produce a more cartographically professional product which provided an overview of facilities and infrastructure throughout the Council’s jurisdiction” says Wall.

Working For The Community

Engage3D Pro has also been used to visualise the aerial photography over the LIDAR terrain model, enabling the GIS team to produce detailed design views for the Council’s “Western Link Road” project. Highlighting how the road alignment could affect the current landscape.

The ‘Western Link Road’ will provide a local alternative to the State Highway for north-south travel in the district. Engage3D has helped the Council visualise an alternative concept for the design of the road by setting the road within the landscape rather than re-creating landscape around the road.

The suggested alignment attempts to traverse around dune forms rather than cut through them using curves and slopes. “More work will be conducted in order to determine what needs to be incorporated into the final design and Engage3D Pro will be used to assist with this ongoing process,” says Wall.

Population growth has also put strain on resources such as water, during dry summers the region’s water supplies are under pressure as normal consumption increases by around a third to meet recreational uses, such as gardening.

The Council’s GIS team has deployed Engage3D to visualise the Waikanae water borefield that provides a supplementary supply to the central part of the district during these dry periods. However, there is still a need to place limits on water use to ensure demand does not exceed the capacity of the borefield.

Recently, the Council deployed Engage3D Pro for a grey water concept map whereby grey water waste from washing machines, showers and baths can be used for under surface irrigation to ease pressure on the main water supply.

“In this project, we emulated a Brisbane City Council study which combined layers for soil porosity, groundwater table (>1m), proximity to waterways (>10m) and slope (<15degrees) to produce a map showing areas suitable for grey water irrigation.

The process involved adding four raster layers such as soil type and slope gradient, to produce a map showing areas suitable for grey water irrigation. In addition, the grid tool has also been used to overlay a coordinate grid.”

Kapiti Council has also put the application EngageSurfaces to the test. This feature of Engage for geographic analysis has enabled the development of a wildfire threat analysis project in conjunction with other Councils in the region. Multiple GIS datasets have been merged together to produce maps of threats, hazards and risk for rural fire planning.

THE PITNEY BOWES BUSINESS INSIGHT ADVANTAGE

Kapiti Council found the integration of Pitney Bowes Business Insight’s Engage3D Pro into their existing systems was not difficult, and the huge range of functionality provided offered great value for money, particularly compared to its competitors.

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