



Landscan

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A news update for Land Information New Zealand clients

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Landonline was one of the featured exhibits at the Institute of Surveyors' conference in August.



The MV Geco Resolution.

TO THE OCEAN FLOOR....AND BEYOND!

The frontiers of under-sea exploration are going to be pushed further than ever before next month as the deep seismic phase of New Zealand's continental shelf project begins.

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Using the services of a specialist deepwater exploration vessel, the shape of the ocean floor will be probed at depths of up to six kilometres around the fringes of our continental shelf. The seismic survey will penetrate the sea floor to depths of up to 35 kilometres - virtually the entire thickness of the continental crust.

At a glance

- The deepwater seismic survey phase of the continental shelf mapping project starts next month.
- It is the biggest single part of the project, accounting for up to one-third of the \$44 million budget.
- The work will be carried out by deepwater exploration specialist Geco-Prakla, which is based in Perth.
- The exploration vessel, *Geco Resolution*, will be collecting data in depths of up to six kilometres and collecting data as deep as 35 kilometres into the earth's crust.
- There was a strong field of contenders for the survey work.

Land Information New Zealand is managing the \$44 million continental shelf project. The completed information will be used to support New Zealand's continental shelf submission to the United Nations - due for tabling in 2006.

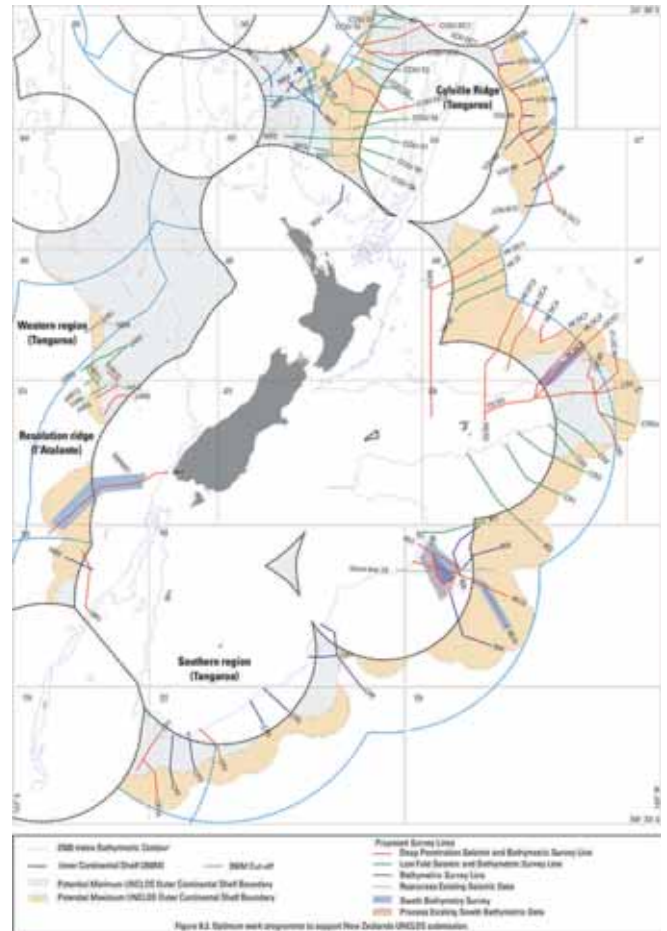
Jerome Sheppard, Project Leader, New Zealand Continental Shelf Project, travelled to Perth last month to finalise details of

what will be the most important single contract of the project.

Under-sea exploration specialist Geco-Prakla has been selected from a strong field of eight contenders for the deep seismic exploration work. The Perth-based company, a subsidiary of multi-national group Schlumberger, will deploy its 3000 tonne vessel *Geco Resolution* for the survey.

Jerome says that while this survey is a big-ticket item, taking nearly one-third of the total continental shelf mapping budget, it's essential for the project. "The *Geco Resolution* is currently doing work around Vietnam and will be seeking other work in this region after they have finished our survey. That way we will be able to share the costs of getting the ship to this part of the world."

The data is collected through receivers on a six-kilometre long streamer towed behind the vessel, picking up soundwaves bounced up from the oceanic crust. The signals are generated by a large airgun array at the rear of the vessel. The vessel will also collect data on the gravity and magnetic fields, and test signal velocity and salinity to ensure the data being received are accurately calibrated.



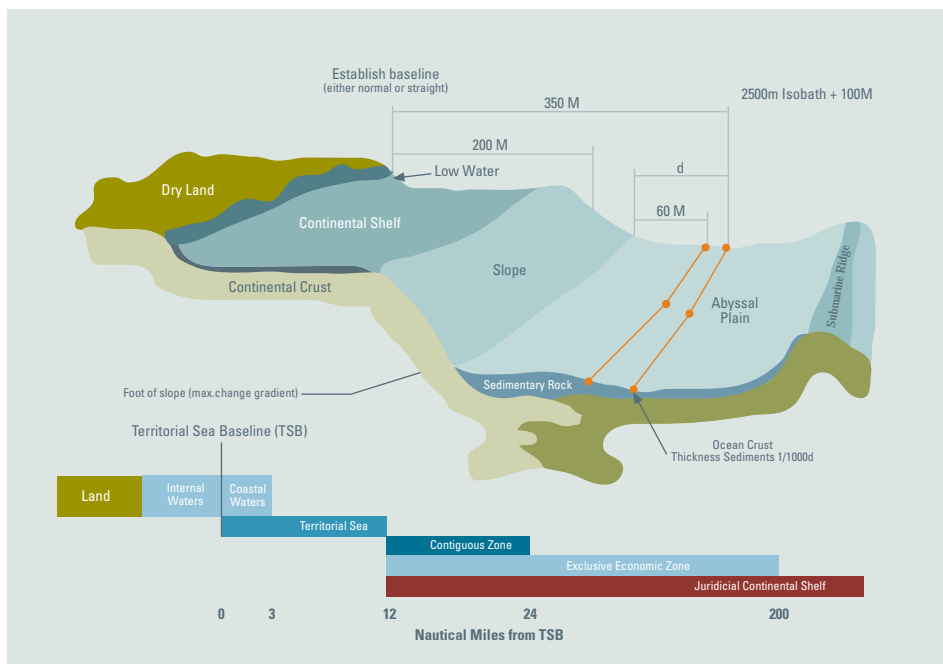
The red lines show proposed survey lines for the deep seismic work.

Although surprisingly small at just 75 metres, and with a crew of just 15-20, the ship is packed with specialist equipment and geared for long voyages in the open ocean. Crews work on a six week rotation and changes are carried out at sea using helicopters and fishing vessels to shuttle personnel and provisions between ship and shore. The vessel can keep working uninterrupted at sea for months or even years.

The work around New Zealand is scheduled to start on 10 November and run for four months. *Geco Resolution* will be plying the ocean at speeds of around 5-6 knots anywhere between 200 and 400 nautical miles offshore.

Jerome says Geco-Prakla emerged as the strongest contender for the work from a very good field of candidates. "While they have excellent health, safety and deep seismic survey credentials, we will be carrying out a health, safety and capability audit before the vessel leaves for New Zealand to ensure the vessel meets our requirements.

"There will be three client representatives on board during the survey - one from the oil industry and one each from the



The deep seismic work will be carried out beyond 200 nautical miles from dry land, and up to 400 nm offshore.

National Institute of Water and Atmospheric Research and the Institute of Geological and Nuclear Sciences. To assist with their safety during the survey, they'll be undertaking a rigorous sea survival and helicopter safety course beforehand. This includes a good dunking in the sea off New Plymouth during a helicopter crash simulation!"

Once the survey is completed, a separate contract will be let for data processing. Jerome says this work is also likely to be done in Perth, which is the nearest centre for specialist deepwater seismic processing work.

He's delighted with the way the deepwater seismic tendering process has worked. "We got a good response and had a strong quality field to choose from. The tender documents were available for downloading off the LINZ and NZGO web sites. It was an innovative and well received way of getting the tender document out."

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CROWN PROPERTY SALES HIT TARGET

For the fourth year running, Land Information New Zealand's Crown Property Management group has achieved its sales objectives. Crown Property Management is responsible for the disposal of surplus property on the LINZ balance sheet, and has managed sales totalling around \$120 million since LINZ came into being. Much of the property is surplus railway land, surplus government property or Crown Land.

The property disposal programme for 1999/2000 was outsourced and included major contracts in Auckland, Hamilton Wellington and Christchurch.

The 1999/2000 revenue target was \$14.526 million and by 30 June 2000 a final total of \$14.693million had been realised from about 275 properties. This included a number of sales in several minor contracts.

The Auckland region, from Whangarei to South Auckland, accounted for \$6.6 million of the total, from 45 sales. The properties ranged from one of 285m² which sold for \$225,000 to a 12 ha section of former Otahuhu railway workshop land bought by Manukau City for \$2 million. The latter is earmarked for development as a sports complex.



Part of the Gracefield property sold during 1999/2000 for \$1.6 million.

In the Wellington region, 65 properties were sold, fetching a total of \$4.4 million. Notable among these were part of the Gracefield railway yards sold for \$1.6m and 1615m² of vacant land on Waterloo Quay near the Westpac Stadium for \$845,000.

The Hamilton region contributed 44 property sales worth \$1.6m and in the Christchurch region 85 properties were sold for \$1.9m.

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NATIONWIDE ACCESS TO LAND RECORDS ASSURED

The future shape of public access to land information has become clearer with Cabinet approval confirmed for the future management of LINZ's treasury of land records.

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At a glance

- LINZ branch offices will close as the Landonline implementation for each region is completed.
- This will be done region by region, ending in 2002.
- Client access to land records will be enhanced to cover records throughout New Zealand, irrespective of where they are stored.
- There will be a choice of ways to access records.

While LINZ paper records will be stored in fewer physical locations, public access to the documents will be actually enhanced as **Landonline** is implemented.

As foreshadowed in the original business plan for **Landonline**, LINZ branch offices will close once the conversion of records held by the office is completed. This will happen progressively as **Landonline** is implemented region by region. The five regional offices will remain open. LINZ fees for access to records will remain the same.

The first region for **Landonline** implementation is Dunedin and the one branch office, Invercargill, is expected to close in December this year. Christchurch region is set to follow, and then Auckland, Wellington and finally Hamilton in 2002 (see box below).

LINZ REGION	BRANCH OFFICES IN REGION	EXPECTED CLOSURE DATE
Dunedin	Invercargill	December 2000
Christchurch	Nelson, Blenheim, Hokitika	Second quarter 2001
Auckland	No branch offices	-
Wellington	Napier, Gisborne	Final quarter 2001
Hamilton	New Plymouth	First quarter 2002

Of greatest interest to LINZ clients is their continued access to LINZ documents. Where they are physically stored will depend on:

- whether or not they have been scanned for **Landonline**
- in the case of unscanned documents, level of demand for LINZ business transactions
- feasibility of copying (some documents are too large or fragile to be copied).

The seven million or so survey and title records that are to

be scanned for **Landonline** will be stored by document management specialists, Recall. Because they will be available in digital form through **Landonline**, paper copies of scanned documents will not generally be made available.

Documents which haven't been scanned for **Landonline**, but which are required regularly for LINZ business transactions will be kept at LINZ regional offices. These will include high-demand documents that were previously stored at branch offices for that region.

Documents from branch and regional offices that are rarely or never accessed will be stored in main centres by Recall. Usage patterns for paper records will be monitored and records may be shifted between regional offices and Recall storage as appropriate.

But from the clients' point of view, the physical location of LINZ records is becoming a non-issue. That, explains Project Manager Core Paper Records Implementation, Gillian Hendren, is because they will have an enhanced range of options for accessing LINZ information. Where they, or the records, are doesn't matter.

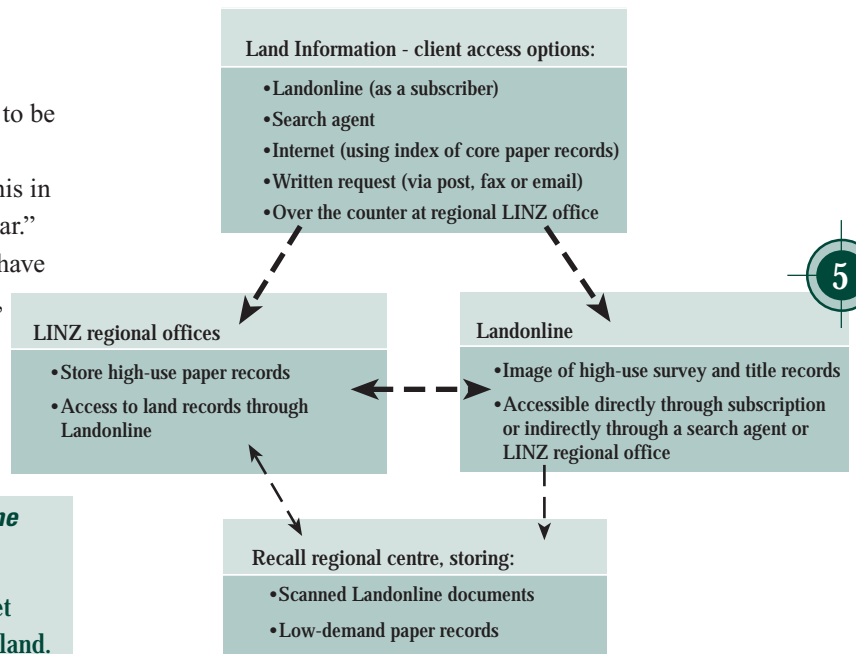
"**Landonline** will provide the bulk of requested documents. Information about the records that haven't been scanned for **Landonline** will be available on the internet," Gillian explains.

"The index will be accessible via the internet. Our contractor,

Gen-i, has made a recommendation for the approach to be used. We're now focusing on a web interface for the index. There will be more information available on this in this next issue of *Landscan* towards the end of the year." Gillian says that for the first time, LINZ clients will have easy access to land information from the whole country, not just their own region.

Once **Landonline** is implemented in a region and the branch office(s) closed, clients will have a new range of options for accessing land records:

- Direct ordering through **Landonline** (for **Landonline** subscribers).
- Through the services of a search agent, who can get records on your behalf from anywhere in New Zealand.
- Accessing information about LINZ records through the core paper records index.
- Sending a written request to a LINZ regional office, accompanied by the appropriate fee.
- By visiting a LINZ regional office and requesting a land record over the counter.



To help LINZ customers during the transition period as **Landonline** is implemented, a regionally based 0800 help desk has been established. The number is 0800 ONLINE (665463).

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LINZ man moves to head e-government unit

Former LINZ Registrar-General of Land, Brendan Boyle is heading the State Services Commission's new e-government unit.

With an initial commitment to spend \$16m on the unit's work over the next four years, Brendan's group will provide leadership in the development and application of e-government initiatives.

His LINZ heritage and academic background placed Brendan right in the frame to head the new unit.

"**Landonline** is an excellent example of e-government at work," he says. "It promises to deliver a more client-focused service that will reduce the cost to the taxpayer without compromising on quality."

Brendan served on the management committee overseeing **Landonline**. He says it shows how e-government can rebuild a core public service from the outside in, beginning with the business needs of its clients. "As director of the e-government programme, I'll be watching the evolution of **Landonline** with great interest," he says.

The Government Information Discovery Enhancement (GIDE) Metadata project being hosted within LINZ (see *Landscan* July 2000) is another example of LINZ's leadership in the realm of e-government, Brendan adds. (While this project remains within LINZ, overall responsibility for it has been transferred to the e-Government Unit.)

His new appointment gives Brendan a unique opportunity to put his recent MBA thesis to the test. The paper, *Electronic Government for New Zealand: Managing the Transition*, was submitted in May this year. It outlines many of the issues facing government agencies planning a strategy for delivering services and making information available in a digital environment.



Brendan Boyle.

It may surprise some, but the successful introduction of e-government is not primarily an IT issue, Brendan says. "The key challenges are not technological, but cultural. It is an economic, structural adjustment and business strategy issue."

He says the successful transition to e-government will require strong leadership and a well coordinated strategy, and much of the unit's work will be focused in this area.

"It's important that we learn from the experience of others. All countries are in the early stages, but some are further down the track than others. The cost savings will be realised, but it will be in the medium to long term. Initial startup costs for e-government initiatives may be high, and this makes strong leadership and project management all the more important."

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Landonline gets trial run with Dunedin customers

A group of Dunedin customers are trialling Landonline in their office this month (October), in anticipation of the system's release next month.

Six customers from Dunedin and Mosgiel - a mixture of solicitors and surveyors from different-sized firms - are trialling the system to help LINZ test its technical architecture and its support systems, such as the 'Quick Start Guide', Solutions Team (i.e. help desk) support, and delivery and billing systems.

"This is a really important point for us," says Landonline Programme Manager, Terry Jackson. "To actually have real customers on-line, doing real searching, is a major milestone. We feel like we're in the home straight, heading towards releasing the application to customers."

The version of Landonline these six customers are using, which is the same as the final release version, has much lower hardware requirements than many modern applications, and runs on relatively low specification computers.

The launch to customers will be in late November, and Dunedin and Invercargill customers will be able to go on-line from then.

Low hardware requirements for Landonline

Landonline will run on 'middle-aged' computers as a result of the 'Citrix MetaFrame' technology LINZ is using to provide on-line access to information.

A significant advantage of this technology, over and above its fast response and rapid display of information, is that it can run on relatively low specification computers (see on page 7). This means that customers will not have to install the latest, high-powered PC in order to run Landonline.

"It's possible that Landonline could run on lower spec machines than the one we are recommending," according to Terry Jackson.

"However, if a customer is going to request images by e-mail, or run other applications on that computer, then a Pentium or an equivalent, would be desirable."

"We still recommend that people have a fast modem and Internet connection, especially if they are going to have images delivered by e-mail. They should also check to see whether their ISP limits the size of attachments they can download with their e-mail."

"It's possible that Landonline could run on lower spec machines than the one we are recommending," according to Terry Jackson.

Citrix is a so-called 'thin client', in which the server does most of the processing, rather than the customer's computer. It provides all the functionality of the Landonline application, and works significantly faster in the areas where the telecommunication connections are slow.

"The high level of security built into Citrix also means that there will be no need to install a security certificate on each computer, which could give customers more flexibility in how many individual users they can have within a firm. For instance, a firm could have fewer licences than users, which might be convenient for some people. However, they would not all be able to go on-line at the same time."

Although this technology is different to the one LINZ uses internally, the Landonline application, and how people use it, is no different.

Recommended computer specification for running Landonline

LINZ customers wanting to ensure that their computer systems are capable of running **Landonline** will find that desktop PCs that are several years old may be powerful enough. The recommended requirements to run **Landonline** are:

Operating system - Windows 95/98/NT/2000	Processor - 233 MHz Intel Pentium
Memory - 64 Mb RAM	External Internet e-mail connection
Monitor - 15 inch graphics monitor (17 inch is better for viewing scanned historical titles and survey plans without scrolling)	

Computers with these specifications are several years old, which means that most computers in use today will easily run the **Landonline** software. However, firms that are considering joining up to **Landonline** should get the fastest Internet connection they can afford, so they can download e-mailed images of survey plans and titles quickly.

Landonline features at surveyors' conference

Landonline was one of the featured exhibits at the Institute of Surveyors' conference in Queenstown in August.

The conference was a good opportunity to test the new Citrix architecture and show surveyors how well **Landonline** would perform in their offices. To do that, LINZ set up three PCs and connected them to the Dunedin **Landonline** database. They all had an external e-mail connection, and were connected to a printer. There was even a laptop running **Landonline** over a cell phone connection for part of the display!

Delegates were able to use the PCs themselves to search the Dunedin database and order whatever records they wanted. Of course, LINZ experts were on-hand to answer any questions and guide people through the searching. The LINZ staff attending the conference also ran two seminars a day on **Landonline**.

“I think people were reassured by what we showed them. Many of them are keen to sign up as soon as possible because of the convenience of the on-line access.”

There was intense interest in LINZ's display at the conference, with most of the delegates visiting the display and attending the seminars LINZ staff ran.

According to Jeff Needham, the NZIS's representative on the **Landonline** Programme, surveyors were impressed by what they saw, and could see the implications for surveying.

“I think people were reassured by what we showed them. Many of them are keen to sign up as soon as possible because of the convenience of the on-line access.”

The overseas visitors from Australia, Canada and Malaysia were also very impressed, and LINZ has already had requests for more information from Australian agencies that are automating their land records.



NZIS Conference delegates giving **Landonline** a workout in Queenstown, with help from LINZ survey experts. From left, Josie Fitzgerald (Wellington), Don Grant (LINZ), Tadeusz Dawidowski (LINZ) and Mark Smillie (Dunedin).

Dave expects a final recommendation on the new map projection to be made in June 2001. "At this stage, if we are to move from NZMG, a good option could be the Transverse Mercator projection."

He says that although this projection compared to NZMG makes for greater distortions at the eastern and western extremities, the most densely populated parts of New Zealand would not be affected to this extent (see diagrams on page 8). In terms of mapping at small scales this is certainly not significant.

A technical workshop was held to hear the views of various mapping interests including defence, hydrography, navigation, surveying, local authorities and others.

LINZ is now carrying out a cost analysis to quantify the impact of the new map projection. A government department with significant mapping needs, and local authorities, will be surveyed to analyse the consequences of moving to a new coordinate system including the conversion of existing records.

Further to this, an independent review of the social and economic impacts has been carried out, and the culminating discussion paper was to be circulated to industry before the end of September.

During October and November Dave and Graeme are leading a roadshow for all stakeholders to ensure everyone has an opportunity for input on a new map projection. Feedback will be collated, and the consultation will culminate in a final recommendation in June 2001.

Dave says feedback so far shows that agencies affected by the changed map projection are keen to take advantage of the benefits offered by the new geodetic datum and the downstream changes that will flow from it.

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CHANGE TO ELECTRONIC RECORDS HOLDS NO FEARS

Hawera surveyor Hugh Gilbert admits he's long enough in the tooth to remember the changeover from coloured to black and white survey plans.

"It caused great anxiety among some of the old school surveyors of the day," Hugh recalls. "But in the event the sky didn't fall in – life went on as before and we've managed perfectly well with the black and white plans for nearly 30 years."

Hugh suspects this ripple of anxiety among some of his colleagues is being mirrored today by a few people who are worried about the transition to **Landonline**.

"I think that once people see that it works and cotton on to the convenience of on-line access, their fears will evaporate," he says.

Hugh is used to working at a distance from the nearest LINZ office. "I probably go to the New Plymouth LINZ office no more than four times a year, and even those transactions I could probably do just as easily by post. Being able to access images, or do a pre-validation via laptop and cellphone from the field can only make things better," he says.

He cautions that until Phase Two of **Landonline** is implemented (digital lodgement of titles and plans), the true benefits of the programme will not be realised. "If it doesn't progress past Phase One, then it will have been a waste of time."

He says the cost of **Landonline** is not the main issue. "The cost of disbursements is only a small part of the total cost of a surveying job. **Landonline** will encourage surveyors to think a little more professionally and find ways to add value to the service they're providing.

"It won't be long before people realise the potential value of



Hugh Gilbert is looking forward to the benefits offered by **Landonline** when it is implemented in his region.

the digital images they are accumulating as they use the service. I've always been very receptive to new technology and from the start I've been enthusiastic about the potential **Landonline** offers."

Hugh says the biggest beneficiaries from **Landonline** will be people involved in approvals for large transactions such as subdivisions, where delays can cost thousands in interest on bridging finance.

He predicts that when **Landonline** is fully implemented, there will be added pressure on all parties involved in land transactions to match demands for faster turnaround.

While his own district will not see **Landonline** until 2002, Hugh is philosophical about the wait. "I'm very keen to start using the service, but being last in the queue at least has one advantage – any teething troubles should be ironed out by the time our turn comes.

"It's important that LINZ consults with us about the transition. All practitioners need to be kept informed about what will happen during the conversion of records."

LINZ PROJECT BUDGET MODEL FEATURES AT INNOVATION AWARDS

If you've ever embarked on a big personal project like house renovations you'll understand the motivation behind Land Information New Zealand's ground-breaking budget model, Risk-based funding for complex projects. The joint LINZ/Treasury financial management model was highly commended in the Central Government section of the prestigious KPMG Innovation Awards 2000, presented last month by Prime Minister, Helen Clark.

Would-be renovators embark on their journey, secure in assurances along the lines of 'it'll be \$40,000 tops and ready by Christmas'. Some \$50,000 later and with Easter approaching, the bewildered home owner is left wondering what went wrong. A complex tangle of labour shortages, bad weather and unexpected cost increases can soon blow budget and time estimates out of the water.

The kinds of risks that can derail our \$40,000 renovation project can be writ large when it comes to big, complex IT projects in the public sector. Very large. "Single-point" cost and time estimates for big IT projects are overly simplistic, says LINZ's Finance Manager, Yew Weng Ho.

"That's why we developed a model for **Landonline**, to more accurately reflect the dynamics of large IT projects that are implemented over a number of years," he says.

"LINZ and The Treasury developed a risk-based model that quantifies the likelihood of identified risks materialising."

Risk management models are commonplace today. For example, risk-based management is now being applied to food safety administration in New Zealand. But this is the first time quantitative risk assessment has been applied to financial management of large IT projects. The methodology builds a more realistic model of what actually happens during the course of a project and secures financial controls around a range of possible outcomes.

In short, it's a successful blending of black-and-white financial and management disciplines, with the much fuzzier outcomes of projects, particularly long-term IT projects, in 'real life'. Rather than identifying a single cost and single end-point for project completion, the model accepts a range of probabilities for the cost/time outcomes of different project components.

By assigning ownership for the risk profile of different project components, those risks can be managed far more effectively, says Yew Weng.

What the judges said

Entries into the KPMG Innovation Awards were judged on innovation, effectiveness, significance of benefits and transferability of systems and processes to other public sector organisations. This is what the judges said about LINZ's highly commended entry:

"It is a bold approach to improve departmental and ministerial decision making for a complex public sector IT project. The introduction of an explicit risk management approach and funding rules that recognise that uncertainty surrounds costs and timeframes of complex and so often, high profile information technology initiatives is both innovative and highly transferable to all complex project undertakings in the public sector."

"It is quite refreshing to have a risk previously identified actually happen and be afforded through contingency plans as it falls within our parameter of expected events. The panic buzzer has not had a chance to be used. Management now has a better 'feel' for the health of any project by being able to concentrate on a well-balanced score card that includes risk analysis, physical progress and financial, rather than the traditional emphasis on financial performance alone."

The risk assessment involves:

- **risk identification - creating a risk register and assigning ownership for each risk.**
- **assessing the potential impact of each risk.**
- **assessing project dependencies and the inter-relationships between components.**
- **quantitative risk analysis to gauge the probability of various risks eventuating.**



LINZ General Manager Business Support, Brian Usherwood, and Finance Manager, Yew Weng Ho, show a bell curve from LINZ's highly commended entry in the KPMG Innovation Awards 2000.

Funding arrangements are built around the degrees of risk. With **Landonline**, the levels of approval for project funding are based on a probability curve for completion within an overall project budget. Essentially, the higher the possible costs, the greater the level of approval required.

Cabinet has given the methodology its seal of approval, and in fact now requires that it be used for all major IT project business cases. The Auditor General has also sanctioned it.

Yew Weng says LINZ appreciates the KPMG Award recognition for something as 'dry' as budget methodology. "The recognition is appropriate, because this methodology could have a profound impact on future IT developments in both public and private sectors.

"Decision-makers may avoid great ideas for fear of failure. This methodology helps quantify the risks for a more informed decision. It is not the mere cost of failures that must be considered but the loss of opportunity to capture benefits that is important.

"It gives IT decision makers and project managers more confidence that projects will deliver. This is going to lead to a higher success rate for large IT projects. In turn, this will help with the implementation of e-government and developments in New Zealand's IT industry."

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At a glance

- A LINZ-Treasury developed budget methodology was highly commended in the prestigious KPMG Innovation Awards 2000.
- The methodology uses quantitative risk assessment to better manage budgets for large, complex IT projects.
- Budget management for earlier IT projects was dogged by overly simplistic 'single point' estimates.
- *Risk-based funding for complex projects* is being utilised for the budget management of **Landonline**.

ON THE WEB

From mid-October the LINZ Annual Report 2000 will feature on the Land Information New Zealand website via www.linz.govt.nz/publications/index. It is one of an ever increasing number of our publications that are now available online.

The Landonline survey conversion project will result in approximately 70% of parcels having survey accurate boundary definitions. See where the survey accurate areas will be at <http://www.linz.govt.nz/services/surveysystem/sca.html>.

