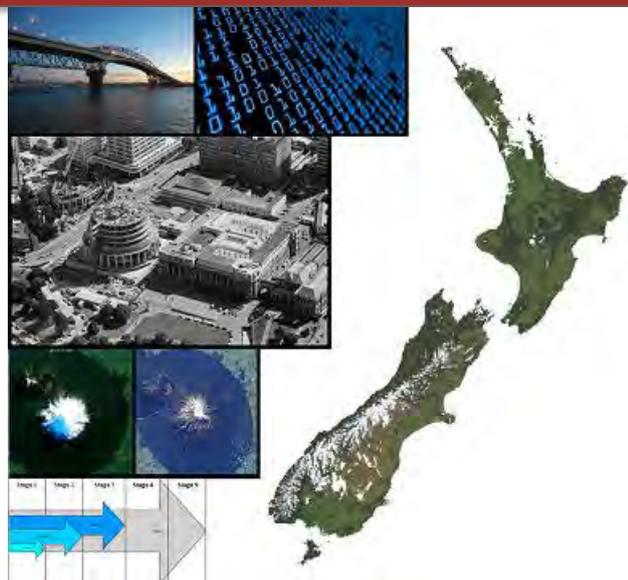


Prepared for LINZ

I-SEC: Workshop annex report



BERL:

Dr Adrian Slack

Eagle Technology:

Nathan Heazlewood

Opus:

Mike Ladd

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1 I-SEC Workshop purpose and participants

This report is an annex to the All-of-Government Imagery Stock-take, Economic Analysis, and Coordination Models (I-SEC) research commissioned by LINZ and carried out by consortium of BERL, Eagle Technology and OPUS over December 2011 to April 2012. The annex report summarises the discussion and results of a workshop with key policy and industry stakeholders.

The workshop set out to present, discuss and refine the coordination options presented to LINZ in the I-SEC report. In particular, the workshop aimed to complement the consortium's investigation of the coordination model options from the international literature, engagement with international experts, and stakeholders from the New Zealand imagery industry that participated in the I-SEC research. The workshop was an opportunity to reflect on the options from a range of public sector perspectives.

The results of the workshop have been put into a separate annex report so as to maintain the independence of the consortium's report, while documenting input from the workshop participants and LINZ's response to the I-SEC report.

The workshop involved the following participants.

Table 1.1 Workshop participants

LINZ participants	External participants
Graeme Blick (introduction only)	Mike Judd – New Zealand Geospatial Office
Rachel Gabara	Mike Donald – SIBA (also CEO, Terralink)
Matt Amos	Miles McConway – Environment Canterbury (also on the Geospatial Steering Committee)
Andrew Ferrel	Gavin Thompson and Steve Pyatt – Geospatial Intelligence Office (NZDF); via video link
Chris Kinzett	
Diane Anorpong	
Research consortium	
Adrian Slack – BERL	
Nathan Heazlewood – Eagle Technology	
Mike Ladd – OPUS	

2 Workshop overview

The workshop began with an introduction by Graeme Blick (LINZ) and an overview of the research objectives by Matt Amos (LINZ). The introduction and overview was followed by a short summary of the research findings by representatives from each of the three organisations in the research consortium. The summary provided participants with an opportunity to drill down with the researchers into methodological detail and insights drawn from particular findings.

The summary was followed by an outline of the main coordination model options, being:

- centralised coordination
- national board
- regional board
- special interest groups.

The main report was provided to participants in advance and, along with the summary of findings and options, formed the basis for the discussion session. To focus the discussion session of the workshop, the coordination model assessment methodology, assessment criteria and performance indicators were also outlined.

For reference, the methodology framework is presented in Figure 2.1 (page 3, below), and the criteria and indicators in the table below. These are reproduced from the main report, where they are presented and discussed in greater detail.

Table 2.1 Workshop participants

Key elements of coordination models	Performance indicators
Coordination of imagery procurement	Imagery investments are optimised
Final decision on imagery acquisition	Imagery is easily discoverable
Funding of imagery acquisition	Imagery is easy to access
Funding imagery coordination and dissemination	Imagery is standardised
Imagery storage	Imagery is open for public access
Licensing	Imagery is appropriately protected and preserved
	Collaboration amongst imagery users

3 Workshop discussion

Participants were invited to reflect on the assessment matrix and whether it captured all dimensions that were important from the perspectives of the policy and wider imagery industry participants. Participants were then asked to consider the relative importance of these dimensions of coordination.

Some aims of this discussion were to:

- specify LINZ's target state for all-of-government imagery
- validate that the preferred coordination model was suitable to meet this target
- prioritise aspects of coordination that could be achieved as 'early wins' towards the target state
- align implementation of the preferred coordination model within an overarching framework of immediate (tactical), medium term (operational) and longer term (strategic) stages.

3.1 Model elements and indicators of coordination

The participants confirmed that the model elements and seven performance indicators were valid.

The participants recommended that:

- two additional performance indicators be added to this list to make it comprehensive
- stakeholders be consulted on the updated list of indicators and the relative importance of these indicators as part of LINZ's consultation process.

The two additional indicators of a model's performance in terms of achieving coordination were:

1. **Fit for purpose:** the procured imagery is sufficient for each stakeholder's business needs in terms of geographic coverage, resolution, currency, frequency of acquisition/update, image quality (cloud cover, shadow, etc), and type (aerial, satellite, LiDAR).
2. **Flexibility:** that the model set some base standard for coordinated procurement, and that the model had mechanisms to allow users flexibility to procure or access imagery of a higher standard. For example, one option that was discussed to allow such flexibility would be a 'buy-up' element, where particular agencies could buy higher specification imagery on top of the base set.

Two other indicators that were suggested were stakeholder benefit (from internal use of imagery data) and innovation benefit (from use of imagery data by external parties). These were not included as separate indicators as they potentially overlapped with other indicators, such as optimised investment or open for public access.

A representative from each of LINZ and the four external participants were asked to rank each of the following nine indicators in importance from 1 (most important) to 9 (least important). The ranking exercise was seen as difficult, as some participants felt all dimensions needed to be present to achieve successful coordination. It was recognised, however, that the timeframe and resources to achieve coordination were limited and therefore some prioritisation was necessary.

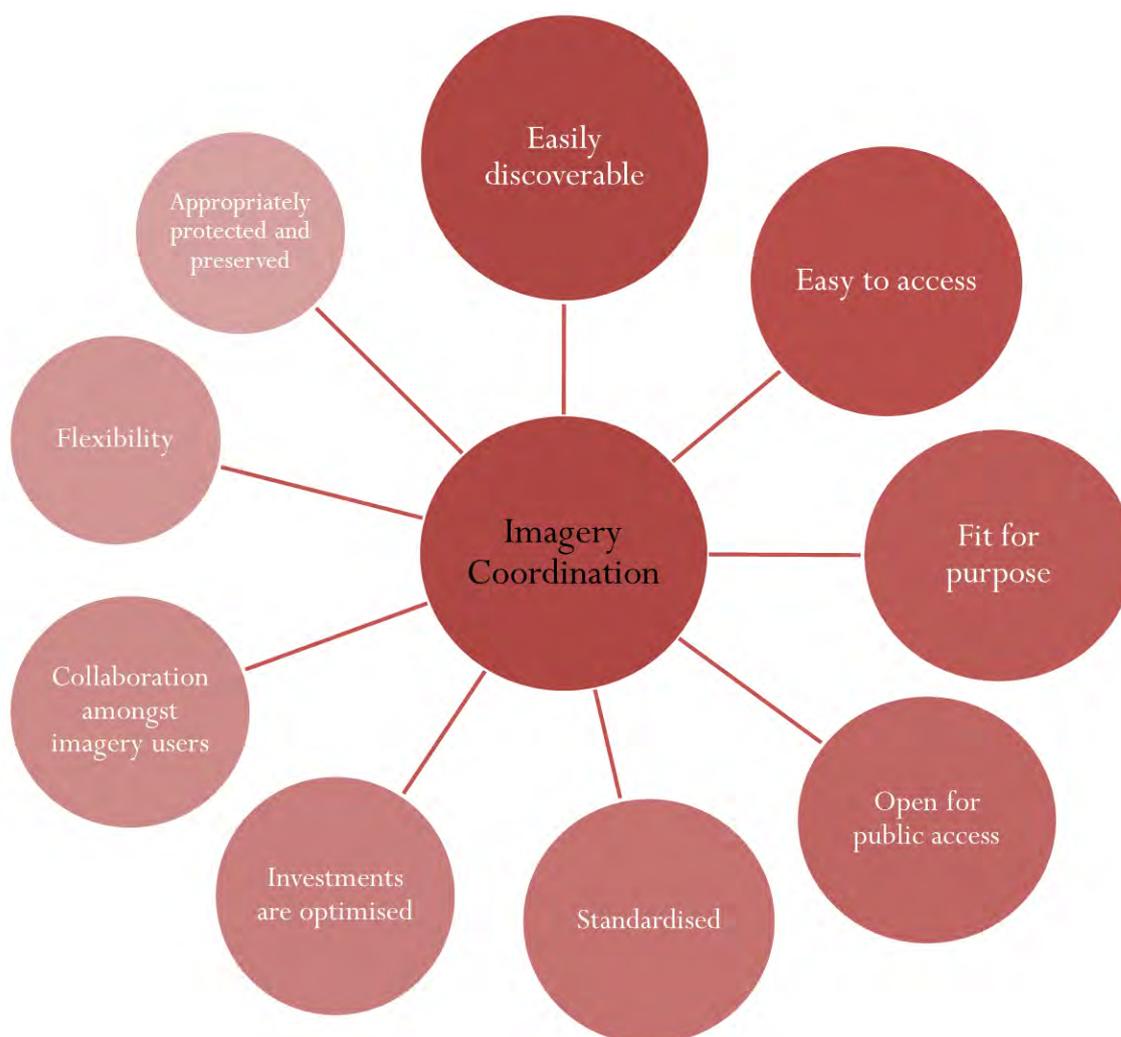
The results of the ranking process are presented below in Table 3.1.

Table 3.1 Relative importance of coordination performance indicators

Indicator	Rank (by score)	Total score	Average score	Standard deviation	Rank by S.D.
Easily discoverable	1	11	2.2	2.4	6
Easy to access	2	16	3.2	1.5	2
Fit for purpose	3	19	3.8	2.6	7
Open for public access	4	21	4.2	2.7	8
Standardised	5	24	4.8	1.0	1
Investments are optimised	6	28	5.6	1.9	5
Collaboration amongst imagery users	7	31	6.2	1.7	3
Flexibility	8	34	6.8	2.7	8
Appropriately protected and preserved	9	36	7.2	1.7	3

The following figure presents these indicators with the relative importance to achieving coordination indicated by the size (and colour intensity) of the circles.

Figure 3.1 Relative importance of coordination performance indicators



The four indicators that were ranked as most important, overall, were that coordination ensure:

- imagery is easily discoverable
- easy to access
- fit for purpose
- open for public access.

However, apart from being easy to access, there was some disagreement about the relative importance of each indicator. The degree of consistency is measured by the *standard deviation*, where a higher standard deviation indicates less consistency.¹

However, the standard deviation for *easily discoverable* imagery was skewed by one response. Four participants ranked this as the most important indicator (a score of 1), but one participant indicated that it was relatively unimportant (giving it a score of 7).

The *easy to access* indicator was scored at 2 or 3 by most participants, with one giving it a score of 6.

Three participants ranked *open for public access* as a 2 (second most important), but two scores of 7 and 8 meant that this achieved a lower overall ranking. This inconsistency is reflected in the reasonably high standard deviation (2.7).

Standardised imagery was being of medium relative importance, with an average score of 4.8. This indicator was the most consistently scored, with three participants ranking it at fifth and two participants either side of this (with scores of 3 and 6).

Optimising investment, collaboration, flexibility, and appropriate protection/preservation were seen as important. However, in relative terms, these indicators were seen as being of lower priority.

¹ The standard deviation measures how much variation there is in a set of data, or the "dispersion" of individual data points around the average. A low standard deviation indicates that the data points tend to be very close to the mean, whereas a high standard deviation indicates that the data points are spread out over a large range of values. Thus a high standard deviation may be interpreted as indicating lower consistency in responses.

4 LINZ's response to the I-SEC report and workshop

As a result of the work undertaken by LINZ to date and the findings from the I-SEC report, LINZ has identified a target state for imagery held by the New Zealand Government. The target state for imagery held by the New Zealand Government is:²

- imagery is open for public access
- imagery is be easily discoverable, accessible and disseminated
- imagery data sets are interoperable, collected to consistent standards
- imagery is actively reused, collected once and used many times
- imagery is protected and preserved and
- imagery investments are optimised.

LINZ recognises that there may be legitimate reason for exception to any of the listed target state points made above.

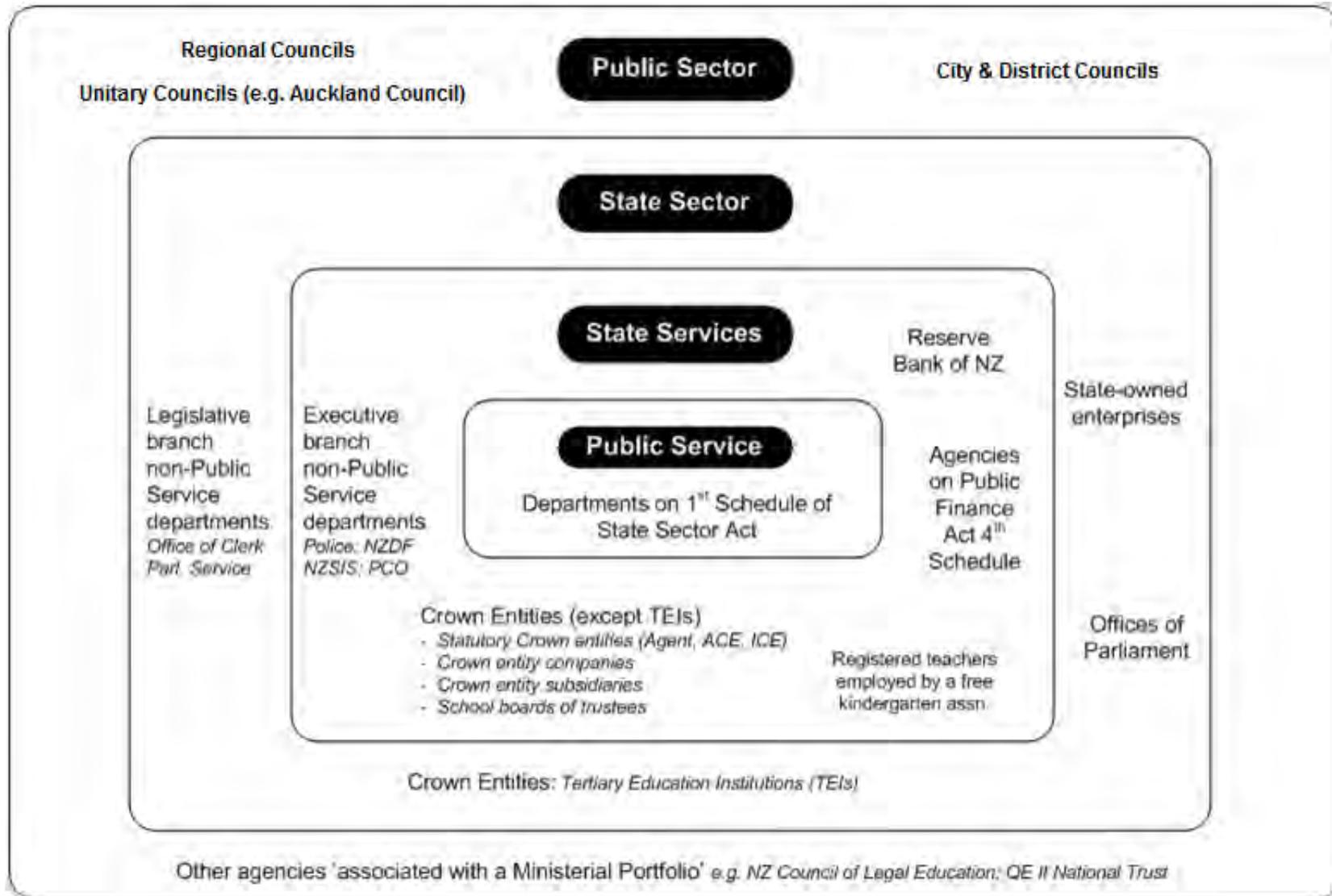
LINZ supports the recommendations set out in the I-SEC report and is planning the next steps towards implementing the recommendations. The next steps for LINZ include:

- consultation with stakeholders on the findings of the I-SEC report and proposed target state for imagery held by the New Zealand Government (May 2012)
- develop a stakeholder engagement strategy (May 2012)
- develop recommended standards, guidelines and templates for imagery acquisition - in conjunction with key stakeholders (August 2012)
- promote Government procurement of imagery under open licensing (on-going)
- develop a preferred option for enhanced discoverability, accessibility, storage and dissemination of imagery, including the pricing of dissemination - in conjunction with key stakeholders (August 2012)
- develop a preferred coordination model - in conjunction with key stakeholders (August 2012)

LINZ will liaise with key stakeholders representing Local Government, Central Government, Crown Research Institutions, Private Sector Industry and Imagery Suppliers. Representatives will be identified through the development of the stakeholder engagement strategy.

² In this context, New Zealand Government means all Public Sector agencies including Central Government, Local Government, State Owned Enterprises and Crown Research Institutes. This definition is characterised in the figure over page.

Figure 4.1 Public sector definition





economics

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