

**Spatial Information Workforce Training Survey
Report**

October 2001

**The Institution of Surveyors Australia
Queensland Division**

Acknowledgements

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- Dr John Hayes of QUT who gave extensive advice on the database construction and analysis of results in a voluntary capacity
- Mr Ian Mathieson of Mathieson Management and Marketing, consultants to the methodology of the Spatial Information Workforce Survey (SIWS) and the design of the questionnaire
- Mr David Broadbent, from the Association Support Agency, consultants to the collection and collation of survey results and design of the database
- Dr Ken Lyons, Spatial Data Standards consultant, joint author of the paper, *On Enhancing the Surveying Industry's Participation in Opportunities Afforded by Spatial Data* referred to frequently in this Report, and who advised on the recommendations emerging from the survey results in a voluntary capacity
- Mr Peter Woods, President of the Institution of Surveyors, who supported staff work on the survey, and endorsed Dr Lyon's recommendations.

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Executive Summary

Introduction:

The Institution of Surveyors Australia, Queensland Division (ISAQ) undertook the Spatial Information Workforce Survey (SIWS) following the release of the paper, *On Enhancing the Surveying Industry's Participation in Opportunities Afforded by Spatial Data*, an outcome of the surveying industry project, the Spatial Data Standards. The paper outlined training and education needed by the surveying industry to access opportunities afforded by the wider spatial information (SI) industry. ISAQ directors undertook to evaluate the market for training courses in the wider SI area before forming policy to advance into this area. Indications of the development of the industry were also gained from the Queensland Spatial Information Infrastructure Council (QSIIC) via its Queensland Spatial information Infrastructure Strategy 2001 Action Plan.

Summary of Findings

The SIWS drew a limited response from its target market due to the low response rate in general to surveys, although it was designed as a user-friendly digital document, capable of being answered in 15 minutes. Phone follow-up to individuals was not possible, and it was difficult to gauge the response rate since several organisations did not provide the total numbers of recipients of the survey.

Several organisations declined to be involved, indicating their workers were not familiar with SI terminology, although they worked in the industry. No responses were received from a number of organisations who were approached, and agreed to circulate the survey.

However despite the low rate of response (approximately 155), managers and directors (80) responded on behalf of their workers, thus representing much higher numbers (several thousand) of workers in the industry.

Respondents with moderate to high awareness of the developments in the SI industry represented 64% of the total respondents. Because managers and directors represented 52% of all respondents, this would indicate that a significant number of people who have influence over a large segment of the SI workforce are aware of the developments.

Again, 72% responded to high or moderate impact on their industry, possibly indicating a number of respondents in positions of influence agree to the significant impact of SI.

The results of the survey validated the belief of the authors of the SDS document (mentioned above) that there was 'an industry need for training over most of these skills and knowledge areas'.

This was borne out by large numbers requiring basic SI knowledge in the technical area (in excess of 1000) in the next 2 years, with numbers averaging 400 in all other technical SI areas. While it is hard to project how large the

whole market is from this response, it is likely the demand is much higher than the figures given, since industry figures indicate most surveys elicit a response as low as 5%.

With respect to Question 10 (See Appendix ii, Graphs 13-14), scoping the amount respondents are prepared to pay for 1,2, and 5 day courses, the information seems to indicate the industry will bear medium priced courses (\$250 to \$500 for a 2 day course). Courses in the higher cost brackets may not be supported.

52% of respondents were located outside the major centres, Brisbane, Toowoomba, Cairns and Rockhampton.

Recommendations:

- That course providers aim to make available medium to high demand courses as soon as possible.
- That state / federal government provides support for the development of approved courses, with special reference to more specialised course that will be costly to provide.
- That the database becomes the central repository for information about the industry, with further information added as it becomes available and access to all but protected information available to the industry. That the database should remain under the custodianship of the Institution of Surveyors.
- That the QSIS Communications Officer consider the research gained from the SIWS in formulating a communications strategy for the growth of the SI industry.

Conclusions:

While the size and scope of the project had its limitations, the survey indicates sufficient need to begin supplying basic SI knowledge courses to the SI workforce, while more advanced courses should be investigated with a view to funding and development.

The SIWS had value as a consciousness raising exercise among managers and directors, reaching 30 organisations with information on QSIC, as well as the information contained on the industry sectors in the survey form. The information collected has further value for any communications strategy to be carried out in the future.

The database of information, while containing intellectual property owned by QSIC, may also form the basis for further research into the industry, and will be used by the Institution to market courses in cooperation with other providers.

Background

Spatial Data Standards Project

ISAQ became fully aware of the opportunities for surveyors in the wider spatial industry as a result of research carried out by the Spatial Data Standards Project consultants, Cottrell Cameron & Steen. The paper, *On Enhancing the Surveying Industry's Participation in Opportunities Afforded by Spatial Data*, outlined the developing Canadian spatial industry, and drew comparisons to the growth of the industry in Queensland.

It made several recommendations for the movement of surveyors into the spatial industry, however identified a need for education, skills and knowledge training courses for surveyors to make the transition.

The report also contained a comprehensive listing of the segments of the industry, and the specific training and education needed for workers in each segment (this information currently quarantined by the Institution of Surveyors).

Researchers listed two major recommendations:

- That tailored industry specific courses be adopted as a major way for the surveying industry to acquire SI skills and knowledge
- That an industry survey be conducted to determine the exact need and assess the economic viability

The Institution then conducted a study of the courses currently available in Queensland, to ascertain what gaps existed, as compared with the suggested schedule of courses outlined in the report. It was found substantial gaps existed, but the courses needed would be expensive to write and to provide. An understanding of the potential market was needed before the Institution could develop policy on the provision of training and education for the spatial sector. The intention of the Institution is to become involved in the provision of training and education in co-operation with existing providers.

Queensland Spatial Information Infrastructure Strategy (QSIS)

The Queensland Spatial Information Infrastructure Council (QSIIC), in the developing the QSIS 2001 Action Plan, had identified the need to increase the capabilities of the spatial information workforce as an integral part of its plan to develop the industry in Queensland.

The Institution approached QSIIC for a grant to carry out a survey to establish the size of the industry in Queensland with reference to the provision of SI courses, and to build a database for the collection of data relating to the SI industry intelligence gathered. A grant of \$4000 was made to the Institution to carry out the research.

Spatial Information Industry Action Agenda

Since the SIWS was initiated by ISAQ, *Positioning for Growth, Spatial Information Industry Action Agenda: September 2001* has been released by

the Commonwealth Government. Under [Section] 8 Education and Skills Formation the document cites the goal *To create and maintain a highly skilled, relevant and innovate workforce*, and the strategy *To ensure that the skills required by the industry are available*.

A federal grant of \$600,000 has already been made to the Association of Consulting Surveyors Australia, for initial awareness-raising and training of surveyors to enter the industry.

Objectives

The objectives of the survey were to:

1. Obtain an indication of the size of the spatial information industry with reference to the need for SI training and education.
2. Create a database of contacts in the industry to be used by the Institution as a marketing tool. The database would also house the information on the industry gathered by the survey.
3. To collect information from the various identified companies / departments / associations involved in the industry and to relay the results back to the participating entities for their further understanding of the size and potential growth of the industry.
4. To interrogate and analyse data collected, providing the agreed intellectual property to QSIIC, as well as making recommendations on future actions needed to develop the knowledge and skills for workers in the industry in Queensland.

Description and justification of the research methodology used

The Institution produced an initial brief to carry out the Spatial Information Industry Workforce Survey, listing the following tasks:

1. Compile a list of contacts at each of the organisations previously listed
2. Telephone each of these organisation's contacts to discuss their willingness to be involved in the distribution of the survey. (Initially, it was thought the entities might be asked to indicate their willingness to distribute marketing information for courses, however on consideration, it was decided to elicit survey responses only).
3. Alternatively, suggest the organisations supply lists of contact details for ISAQ to directly contact their members (this was later considered to be contrary to the privacy considerations of most organisations, and was abandoned)
4. Write to the organisations confirming their willingness to be involved, and enclose the survey form to be distributed.

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5. As individuals return their registration of interest, compile a database of potential clients for the training courses
 6. Analyse the results of the survey to determine potential market size, locational distribution of interested people and how much they are willing to pay for courses.

The Institution then approached Mathieson Management and Marketing consultant, Ian Mathieson, to review the methodology and to write the survey questions. Mr Mathieson made the following suggested amendments to the task outline:

1. Achieve buy-in from the organisations by following a top-down approach, ie- have the president of ISAQ phone the managers / presidents direct to:
 - explain the importance of the survey
 - to request their co-operation, and
 - to establish the executive contact in the organisation.
2. Give the organisation the opportunity to receive a benefit by:
 - Including general awareness questions in the survey sent to all organisations, covering the developments in the SI industry and like impacts, and giving them feedback on those questions.
 - Include in the survey any particular questions the participating entity might like added to the survey to collect information relevant to their organisation (this was not taken up by any organisation).
 - Assure them there would be minimum effort on their part.

The minimum effort involved requesting the organisations send out the survey by e-mail or mail to members / employees, who would return the survey directly to the Association Support Agency (ASA) carrying out that part of the operation on behalf of the Institution. This would minimise the effort of the participating entity, since their only involvement would be sending the survey.

3. Following the phone call to the president, write to the organisation confirming the agreement to circulate information
4. The survey to be adapted to contain both relevance to an individual filling out the survey, or a department head / manager filling out the survey on behalf of the organisation.
5. ASA to approach the given contacts in the organisation, establishing the desired format for the survey (paper or digital), and sending to the organisation for circulation.
6. ASA to create a digital copy of the survey, capable of being filled out and returned on-line.

7. ASA to establish where possible the numbers of persons in the participating entity who were sent the survey.
8. ASA to create a database capable of being interrogated for analysis of the survey results.
9. ASA to enter all data into the database.

The Process

The Institution began by compiling a list of government departments, associations, companies and interest groups known to have workers in the spatial industry. The list was expanded at the suggestion of the SDS consultants and the Capabilities Committee.

Mr Mathieson compiled the list of survey questions to ensure the required information could be elicited from respondents in a format to be recorded and interrogated easily. The survey questions were then reviewed to ensure the objectives of the project would be met, and some revision was made to include a detailed description of the segments of the industry.

The Institution office then compiled a list of presidents / managers / directors of the organisations with contact details. The list contained approximately 30 organisations, and all directors of the Divisional Committee of ISAQ were briefed on the project. All were assigned a number of organisation heads to contact. Since the organisation was relying on the input of busy volunteers to carry out this part of the operation, the time-frame expanded considerably to accommodate their availability for the project. Eventually some directors took over the lists of others to ensure the operation took place.

The directors were briefed for the president to president approach in the following aspects:

- rapid evolution of the spatial information industry, with potential impacts on their business / department as well as on the Institution
- Institution taking leadership role in looking at skills levels so we're contacting a wide variety of representative organisations, businesses and departments
- Institution seeking the support of the organisation in exploring awareness of spatial information industry and skills needs of practitioners
- Asking some questions on the awareness of the spatial information industry and will be happy to pass the responses for that part of the survey back
- Will include some questions and will be happy to pass the responses of these back
- Will have our people contact your Executive Director to arrange details

The directors then passed the results of the phone calls to the Executive Officer of ISAQ, who then wrote to each organisation confirming the arrangements, and enclosing a copy of the letter from R Freeman as Chair of QSIIC, explaining QSIIC's endorsement of the survey. (A copy of the QSIIS brochure on the QSIIS Action Plan was also included where the directors were not already involved in QSIIC). A copy of the survey questions was also attached. Each letter was personalised according to the verbal arrangements made with each organisation.

In some cases, the entities approached wanted to seek the approval of their boards before participating: others did not perceive the survey as being of interest to their members since there was such a limited perception of the spatial industry. Others were reluctant to be involved considering the amount of information already being forwarded to their members from many sources. One organisation sent out two other surveys at the same time as sending the SI Workforce Survey. Another department manager said employees were already under strict constraints to achieve work deadlines, and although very willing to help, and fully sympathetic to the purposes of the survey, he did not want to make extra demands on their time. However he did send the survey and the reminder.

The contact spreadsheet containing the new information as to the administration contact in the organisation was then forwarded to the ASA who were fully briefed on the response of each organisation. Their representative then contacted the person identified by each organisation, and in every case, it was decided by mutual consent to limit the circulation of the survey to digital means only.

ASA converted the survey into a user-friendly digital document in 'form' format ie- the respondent could tab through the document on-line, filling in the fields with their responses. The respondent then e-mailed or faxed the form back to ASA direct.

In some instances, the form was sent as an attachment, in others, an e-mail message contained a URL to the survey on the Institution's Home page. All survey forms sent were coded to indicate the participating organisation.

The process was very slow, with responses coming in at a very low rate. ASA then sent e-mail reminders to the organisations for follow-up.

Several factors prohibited the Institution using a phone follow-up direct to respondents. Since the object of the survey was to be as non-intrusive as possible, it was not possible to ask for lists of phone numbers, nor to ask that a call centre be involved in collecting data. This seriously hampered the collection of data.

However, this was ameliorated to some extent by managers / directors who responded on behalf of their companies / departments.

ASA then sought the advice of Dr John Hayes, the Institutions academic advisor, on the building of the database. Dr Hayes approved the format suggested, and data collected was then entered.

Dr Hayes summarised the results of the survey, and a small group from the SI industry were invited to formulate recommendations. The group consisted of Dr Ken Lyons, Mr Peter Woods (President ISAQ), and Dr John Hayes.

Detailed Research Results Including Statistical Analysis

The database was interrogated in the light of the objectives outlined. The results were correlated and graphs produced to illustrate the outcomes (see Appendix ii, Graphs).

A Discussion of the Research Results Including an Analysis and Comparison of the Research Results in the Light of the Research Objectives

32 organisations were approached, of those, 3 declined to be involved, and 11 agreed to send out the survey, but provided no responses (see Appendix i). 155 individual responses were received, and of those 80 were directors or managers who responded for themselves and their staff.

The format of the survey, in allowing for the directors or managers to respond on behalf of the workers in their organisations, provided an essential tool for giving access to a far greater number than the single respondent method. Thus, although only some 155 responses were received, indication of a need for courses for thousands of workers was signalled.

Several organisations declined to involve their members. These included the Real Estate Institute of Queensland, who said only a handful of their members would understand the concept of spatial information, Property Council of Australia, and the Australian Property Institute, who did not see the relevance to their members. Question 13 b comprehensively listed the market segments. From the numbers responding, it might be recognised that some areas were under represented (law and order, medicine, agriculture, retail, and social services), while other areas with a more direct correlation to spatial information (like transport, 4133) and asset / facilities management indicated the highest numbers (See Appendix ii, Graph 12). These latter were more likely to see the relevance of the SIWS and respond. Many with little exposure to the concept of spatial information, although working with SI applications, declined to be involved at the initial approach, or did not respond to the survey sent to them.

Thus with respect to Question 1: *How aware are you of general developments in spatial data industry and technology?* (See Appendix ii, Graph 1) the response to the SIWS showed 42% moderately aware, 22% very aware, with only 13% with limited or no awareness. Because the survey was in many cases responded to by those in management and director positions (52% of respondents), this would indicate that a significant number of people who

have influence over a large segment of the SI workforce, are moderately to very aware of the general developments in SI.

In question 3, *What has been the impact of developments in the spatial information industry on you or your business or organisation, to date?* (see Appendix ii, Graph 2) the response indicated 72% of those completing the SIWS agreed the impact had been high (38%) or moderate (34%). Again, this would indicate that a number of respondents in positions of influence agree to the significant impact of SI.

In terms of projected education / skills training needs over the next two years, the response to *Question 9: Staff to increase knowledge over the next 2 years in spatial information – technical* (Appendix ii, Graph 3), indicates a widespread need for basic spatial information knowledge. The Graph Q9: *Staff to increase knowledge over the next 2 years in PC & office Software Usage* (Appendix ii, Graph 4), indicated the highest need for training and education was in word processing and spreadsheets, IT & computer related areas, PC Operating System, and Office database (1630). More specialised IT knowledge was needed by 1320 staff.

In Question 9: *Staff to increase knowledge over the next 2 years in discipline area of SI/GIS usage* (Appendix ii, Graph 5), significant numbers (180 – 230) indicated a need for basic and good discipline knowledge.

In Question 9: *Staff to increase knowledge over the next 2 years in business skills*, (Appendix ii, Graph 6) 93 expressed a need for marketing, finance contracts, and trading knowledge, while 127 indicated they needed training in the protection of intellectual property.

In Question 9: *Staff to increase knowledge over next 2 years in surveying – technical* (Appendix ii, Graph 7), approximately 96 said they needed to acquire basic surveying knowledge and skill, and 118 said they needed good surveying knowledge and skill.

In considering the responses to Question 9, these figures are probably only a starting point when the numbers represented by the survey are taken into account as being only a small proportion of those who received the survey, but did not respond, and those who were not approached at all.

In Question 13, Staff special activities (Appendix ii, Graphs 9-11), the SIWS scopes the various activities represented within the SI industry, and lists the market segments. Respondents to those questions indicate the numbers working in each area (in descending order – ie greatest number to least number):

In Data Syndication: Data compilation (351), data analysis (315), data integration (243), GIS development (159), data brokering / reselling (64), and photogrammetry (45).

In Data Collection: field data collection (382), office data capture (372), space imagery collection / distribution (111), aerial imagery collection (64).

In Data Presentation: map presentation (355), digital terrain modelling (293), 3D visualisation (124), and internet deployment (99).

In the category, Other: software development (90), system analysis (72), software supply (39), mobile location services (36), publisher / distributor (36), and equipment / hardware supply (5).

These figures may represent a larger sector who did not respond. Further investigation may be required.

With respect to pricing of courses, the respondents indicate the industry will bear medium priced courses: \$150 - \$325 for a one day course: \$250 to \$500 for a 2 day course: and 77% would pay between \$500 and \$1500 for a 5 day course. Courses in the higher cost bracket may not be supported, with only 1% willing to pay \$750 for a one day course, 1% willing to pay \$1500 for a 2 day course, and 4% willing to pay \$2,200 for a 5 day course (See Appendix ii, Graphs 13-15).

52% of respondents were located outside the major centres, Brisbane, Toowoomba, Cairns and Rockhampton.

Since training and education for the more specialised sector will still need to be provided (for smaller numbers than the less specialised courses), and if the industry is to advance, support from other sources (other than the providers) to produce this segment of courses may need to be found.

Objective 1

With respect to the first objective, 'to obtain an indication of the size of the spatial information industry with reference to the need for spatial information training and education', the survey did not provide information to accurately describe the size of the industry. However, it did provide enough information to fulfil the predictions of the SDS consultants, that '*there is an industry need for training over most of these skills and knowledge areas*'.

Recommendation:

That course providers aim to make available medium to high demand courses as soon as possible.

That state government provides support for the development of approved courses, with special reference to more specialised courses that will be costly to provide.

Objective 2

'Create a database of contacts in the industry to be used by the Institution as a marketing tool. The database would also house the information on the industry gathered by the survey.'

The Institution has succeeded in creating a database of contacts and results capable of interrogation by experts, and of forming the basis for marketing of courses by the industry.

Recommendation:

That the database becomes the central repository for information about the industry, with further information added as it becomes available and access to all but protected information available to the industry. The database should remain under the custodianship of the Institution of Surveyors.

Objective 3

To collect information from the various identified companies / departments / associations involved in the industry and to relay the results back to the participating entities for their further understanding of the size and potential growth of the industry.

The information gathered will be forwarded to the organisations in the form of this report.

Recommendation:

That the QSIIS Communications Officer consider the research gained from the SIWS in formulating a communications strategy for the growth of the SI industry.

Objective 4

To interrogate and analyse data collected, providing the agreed intellectual property to QSIIC, as well as making recommendations on the future actions needed to develop the knowledge and skills for workers in the industry in Queensland.

The results of the survey have been interrogated to give an indication of:

- Awareness of the general development in SI
- Awareness of the impact of SII developments on the organisations approached
- Information on whether it is viable to provide training courses for the SI industry, and what courses
- An indication as to the minimum size of the market segments
- An indication as to the cost of courses the market will bear.

Recommendations have also been made.

Conclusions

The size and scope of the project had its own limitations as previously outlined, however the value of the survey as initial marketing intelligence for the provision of SI education and training of the workforce should not be underestimated.

The size of the market reached by the survey indicates sufficient need to begin supplying basic SI knowledge courses to the wider SI workforce, while more advanced courses should be investigated with a view to funding and development.

With regards to the value of the SIWS as a consciousness raising exercise, all 30 of the organisations included in the survey received initial information about QSIIC and the QSIIS 2001 Action Plan. The survey itself, in outlining

the parameters of the workforce and the skills and knowledge required, provided an opportunity to increase the knowledge of business managers and directors of the scope of the industry.

The survey also defined some initial research valuable to the communications plan to be carried out by QSIIC. It would appear that since several large organisations either declined to involve their members, or did not evince a response, that there is a large sector with little understanding of the importance of the spatial information function, or the potential growth of the industry. People in these areas might be regarded as the 'resisters' in a communications strategy, while those who responded to the survey personally, might be regarded as 'early adopters', and targeted to be influential in the strategy. Those whose managers or directors responded on their behalf, will be 'followers' who will be easily reached through that channel to receive further information, and to be influenced to further their knowledge.

In all, the SIWS succeeded within the limitations of resources and restrictions, and provided worthwhile initial information to the education and training sector of the spatial information industry. Further, it provided verification of the need for a communications strategy to increase the knowledge and awareness of the industry essential as a precursor to its growth, and supplied a basis of information valuable to the execution of such a strategy.

An added advantage gained by the SIWS was the compilation of a database of information valuable to the future development of the industry, and which may form the repository for further information on the industry as it comes to hand.

Intellectual Property

QSIIC retains the intellectual property of all information gathered by the SIWS, with the exception of the database of contact details, which is held by the Institution of Surveyors Australia, Queensland Division.

Appendix i

List of Organisations Approached to Participate in the Survey:

* Generated no responses

** Declined to be involved

- Defence Forces
- MapInfo Australia Pty Ltd
- Department of Public Works
- Local Government Association of Queensland
- Brisbane City Council
- Department of Innovation & Information, Economy, Sport and Racing
- Queensland Treasury
- Royal Australian Planning Institute
- Australasian Institute of Mining & Metallurgy, S Qld Branch*
- Urban Development Institute of Australia*
- Australian Institute of Urban Studies*
- Royal Australian Institute of Architects*
- Department of Natural Resources and Mines
- Department of Main Roads
- Department of Primary Industries
- Environmental Law Association
- Geospatial Information and Technology Association*
- Queensland Rail
- Department of Housing
- Queensland Herbarium*
- ESRI Australia*
- Institute of Engineers Australia
- Australian Urban and Regional Information Systems Association*
- Convergent Technologies Pty Ltd*
- Far North Queensland GIS User Group
- Spatial Queensland*
- The Institution of Engineering and Mining Surveyors, Queensland Division*
- The Institution of Surveyors Australia, Queensland Division
- Mapping Sciences Institute of Australia
- Property Council of Australia**
- The Australian Property Institute**
- Real Estate Institute of Queensland**

Note: The survey was limited to Queensland.

Appendix ii

List of Graphs

Graph 1: Q 1: Awareness of General Developments in SDI
How aware are you of general developments in spatial data industry and technology?

Graph 2: Q 3: Impact of SI Developments on your organisation
What has been the impact of developments in the spatial information industry on you or your business or organisation to date?

Graph 3: Q 9: Staff to increase knowledge over next 2 years in SI – Technical
Do you feel that you personally will seek to increase your knowledge or that your organisation will want to increase staff knowledge in any of these skill areas over the next two years – in SI Technical?

Graph 4: Q 9: Staff to increase knowledge over the next 2 years in PC & Office Software Usage
Do you feel that you personally will seek to increase your knowledge or that your organisation will want to increase staff knowledge in any of these skill areas over the next two years – in PC & Office Software Usage?

Graph 5: Q 9: Staff to increase knowledge over the next 2 years in discipline are of SI/GIS usage
Do you feel that you personally will seek to increase your knowledge or that your organisation will want to increase staff knowledge in any of these skill areas over the next two years – SI / GIS usage

Graph 6: Q 9: Staff to increase knowledge over the next 2 years in business skills
Do you feel that you personally will seek to increase your knowledge or that your organisation will want to increase staff knowledge in any of these skill areas over the next two years – in business skills?

Graph 7: Q 9: Staff to increase knowledge over next 2 years in surveying – technical
Do you feel that you personally will seek to increase your knowledge or that your organisation will want to increase staff knowledge in any of these skill areas over the next two years – in surveying – technical?

Graph 8: Q 13: Staff special activities – data syndication

Please indicate the special activities you are engaged in – data syndication

Graph 9: Q 13: Staff special activities – data collection
Please indicate the special activities you are engaged in – data collection

Graph 10: Q 13: Staff special activities – data presentation
Please indicate the special activities you are engaged in – data presentation

Graph 11: Q 13: Staff special activities – other
Please indicate the special activities you are engaged in - other

Graph 12: Q 13: Staff Market Segment
Please indicate the special activities you are engaged in

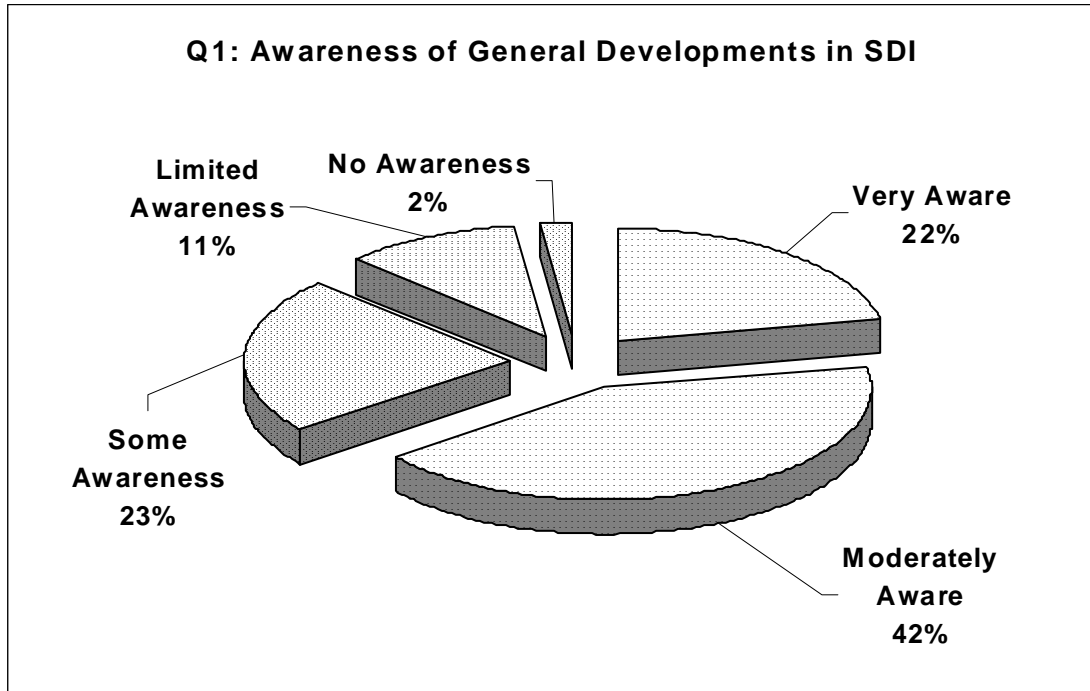
Graph 13: Q 10: Amount prepared to pay – 1 day course
How much would you be prepared to pay for competency-based first year level training courses related to spatial information of the following duration? Please indicate the figure closest to yours.

Graph 14: Q10: Amount prepared to pay – 2 day course
How much would you be prepared to pay for competency-based first year level training courses related to spatial information of the following duration? Please indicate the figure closest to yours.

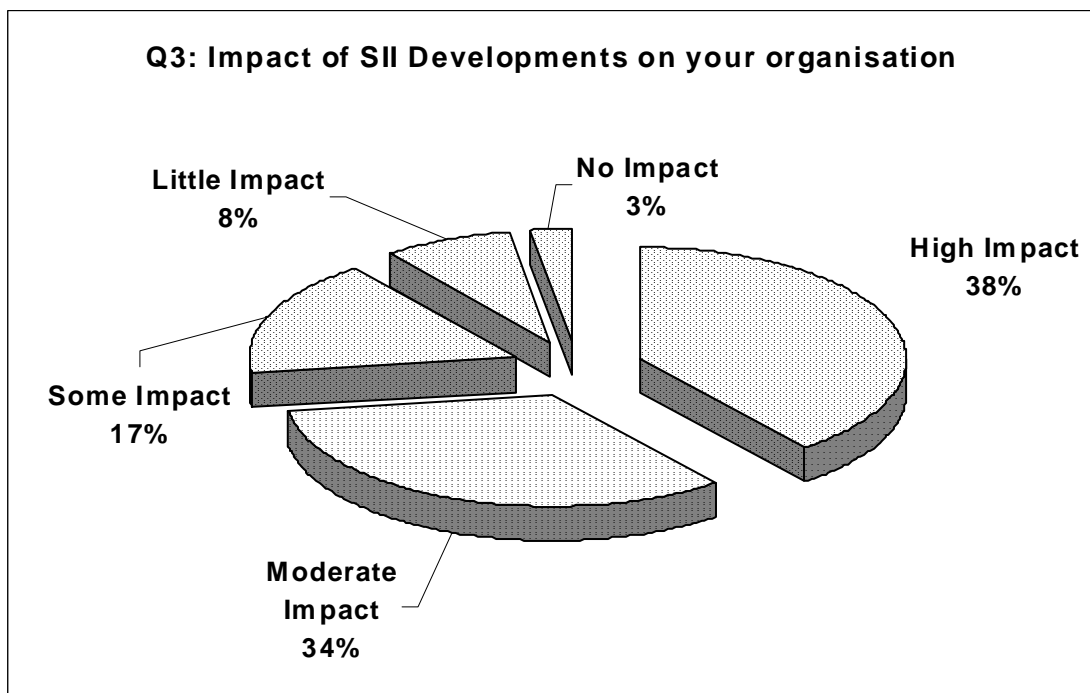
Graph 15: Q 10: Amount prepared to pay – 5 day course
How much would you be prepared to pay for competency-based first year level training courses related to spatial information of the following duration? Please indicate the figure closest to yours.

Appendix ii

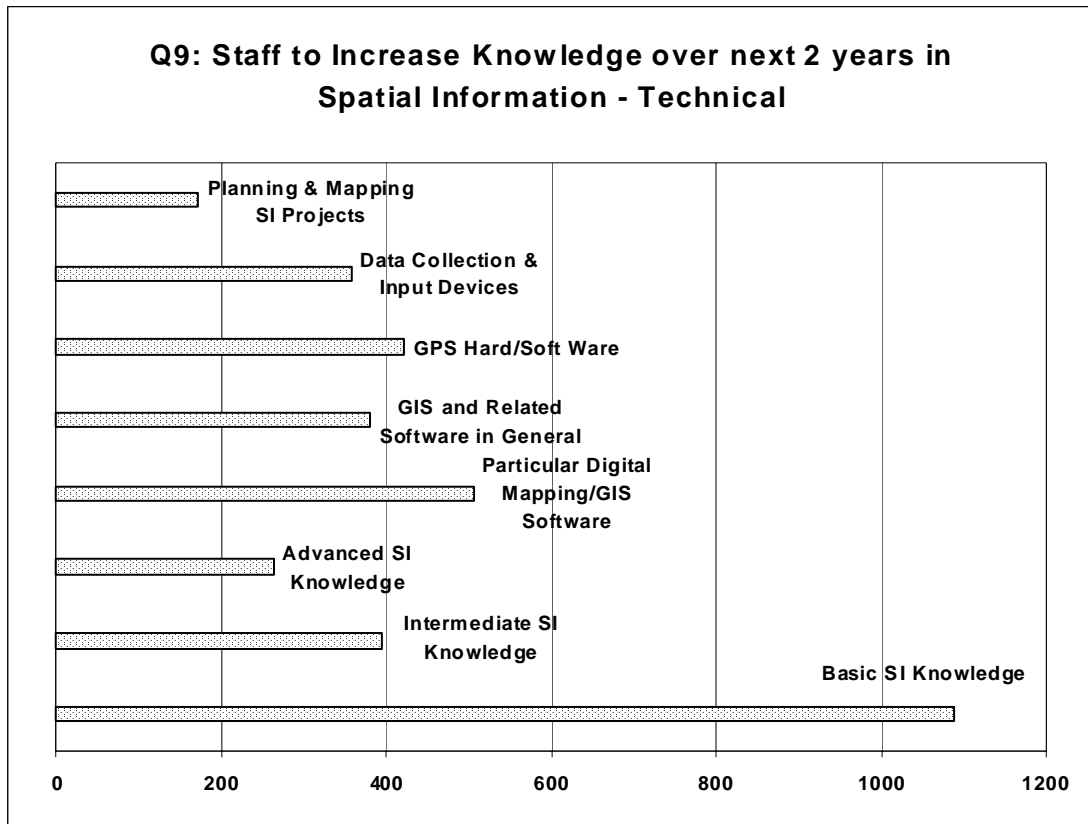
Graph 1



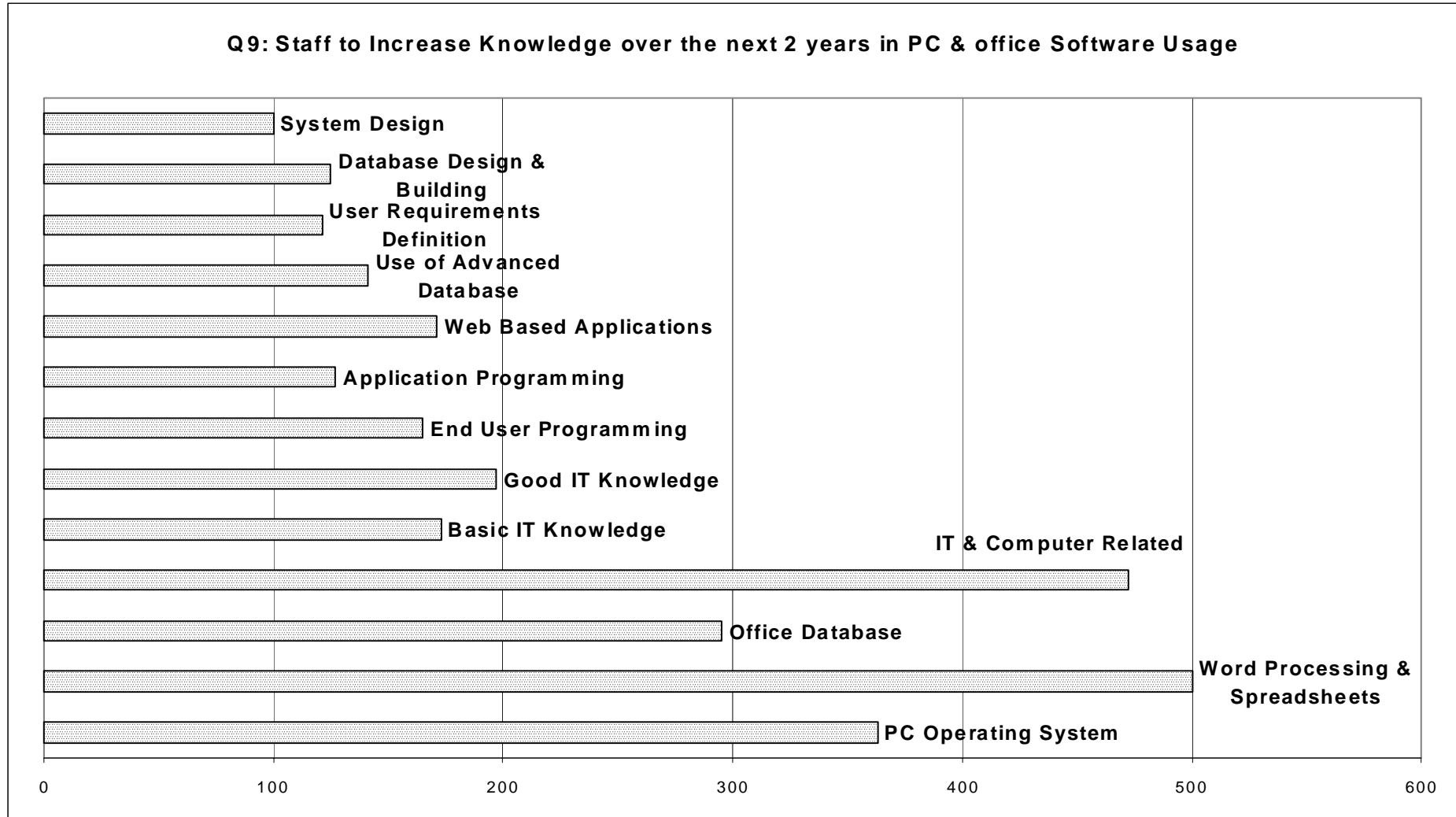
Graph 2



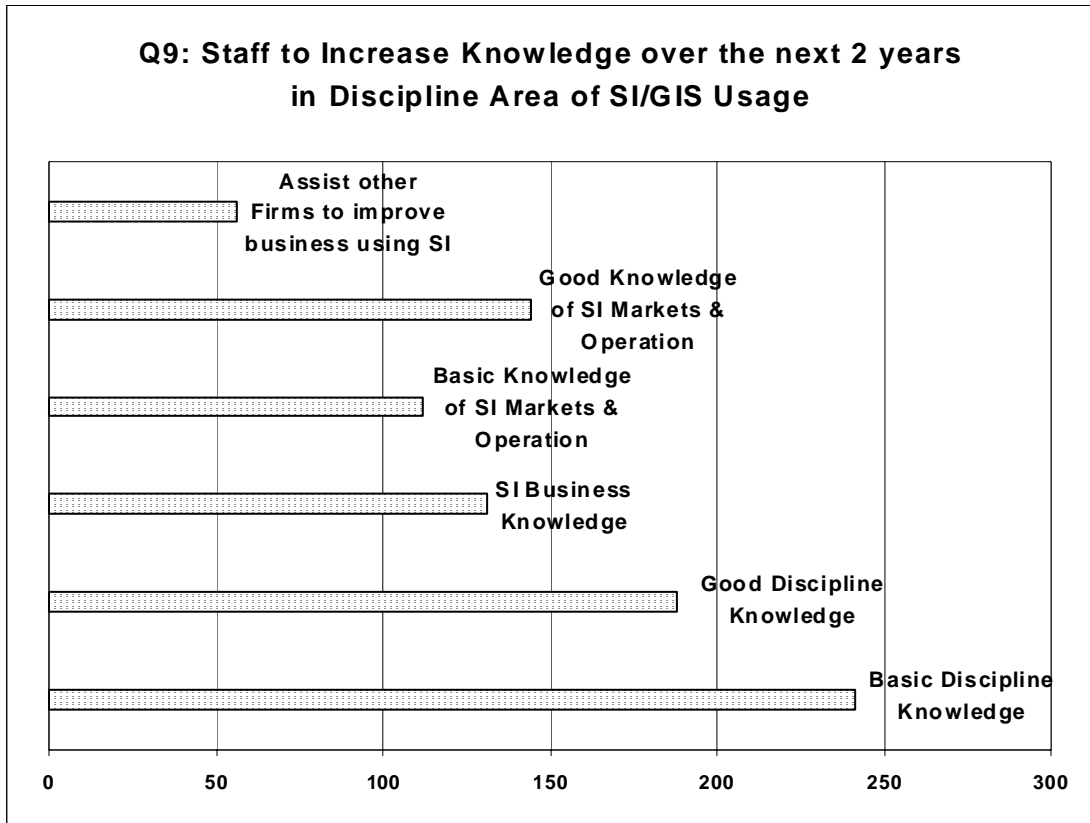
Graph 3



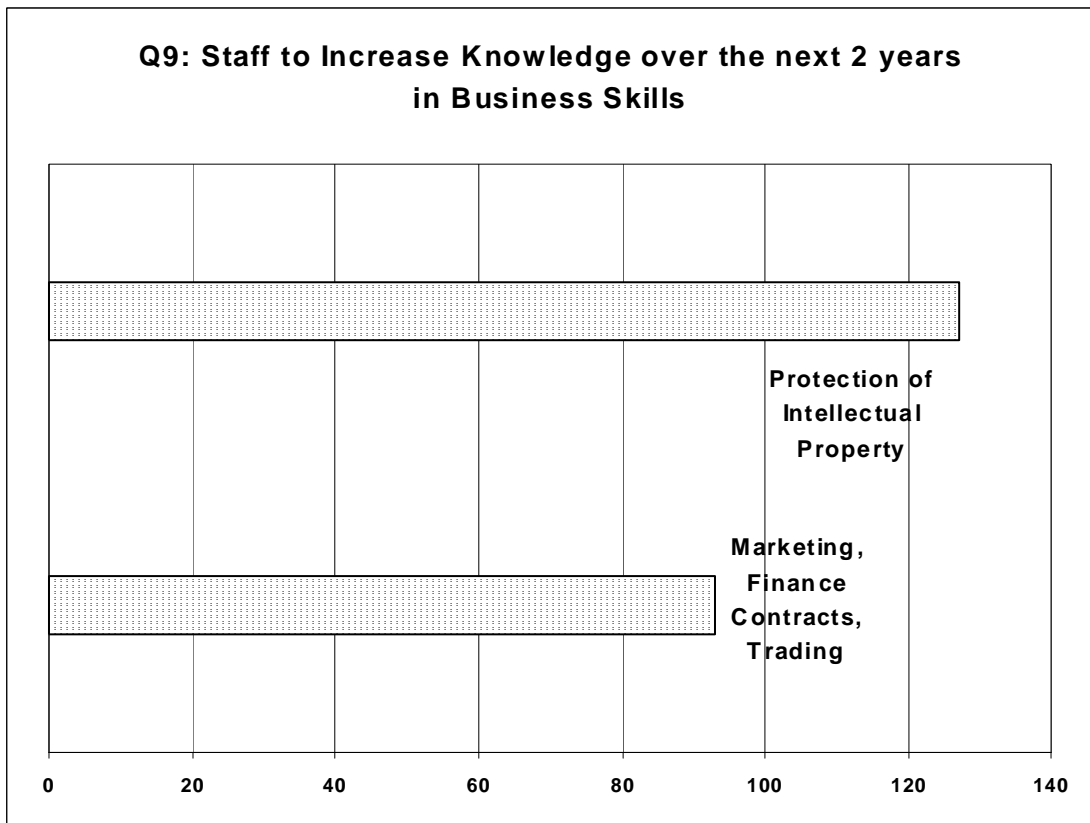
Graph 4



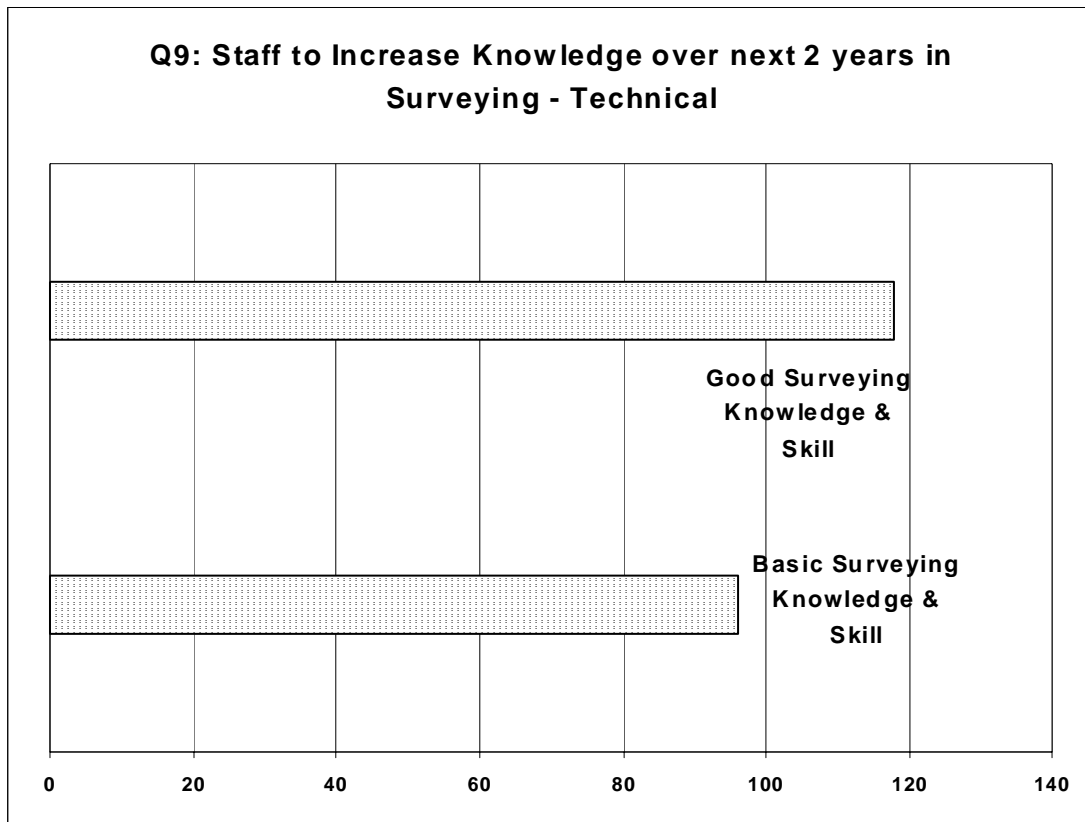
Graph 5



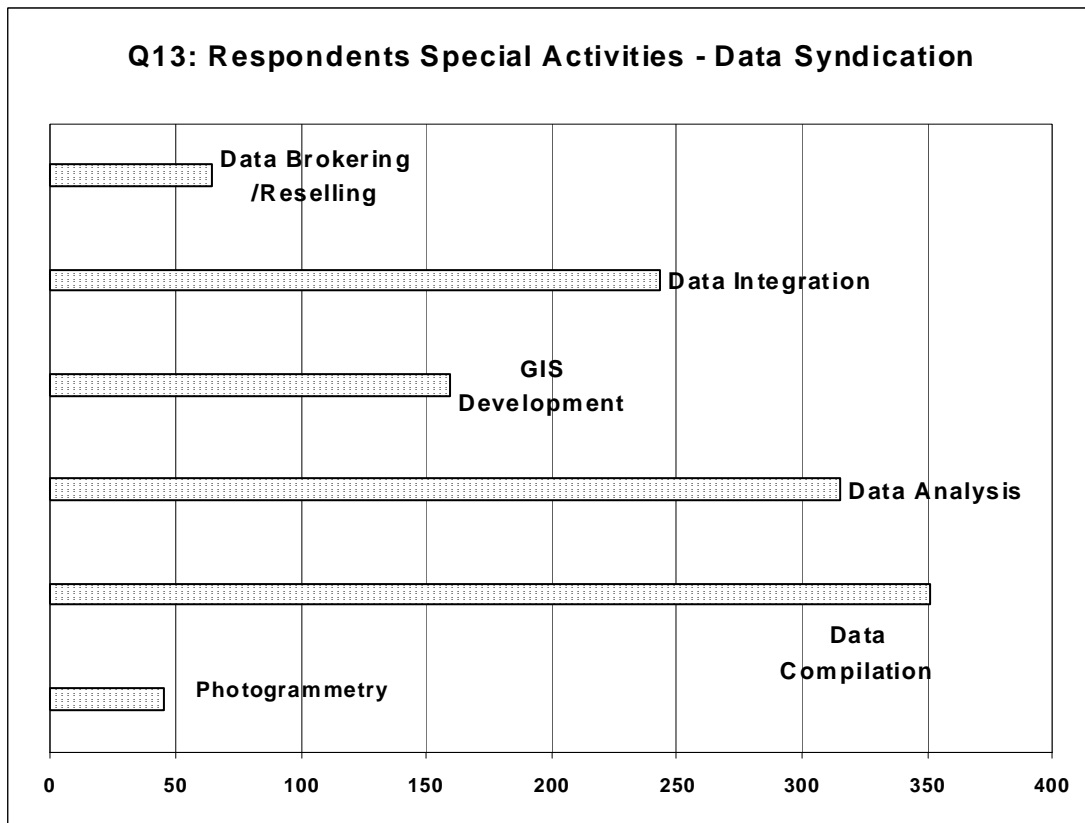
Graph 6



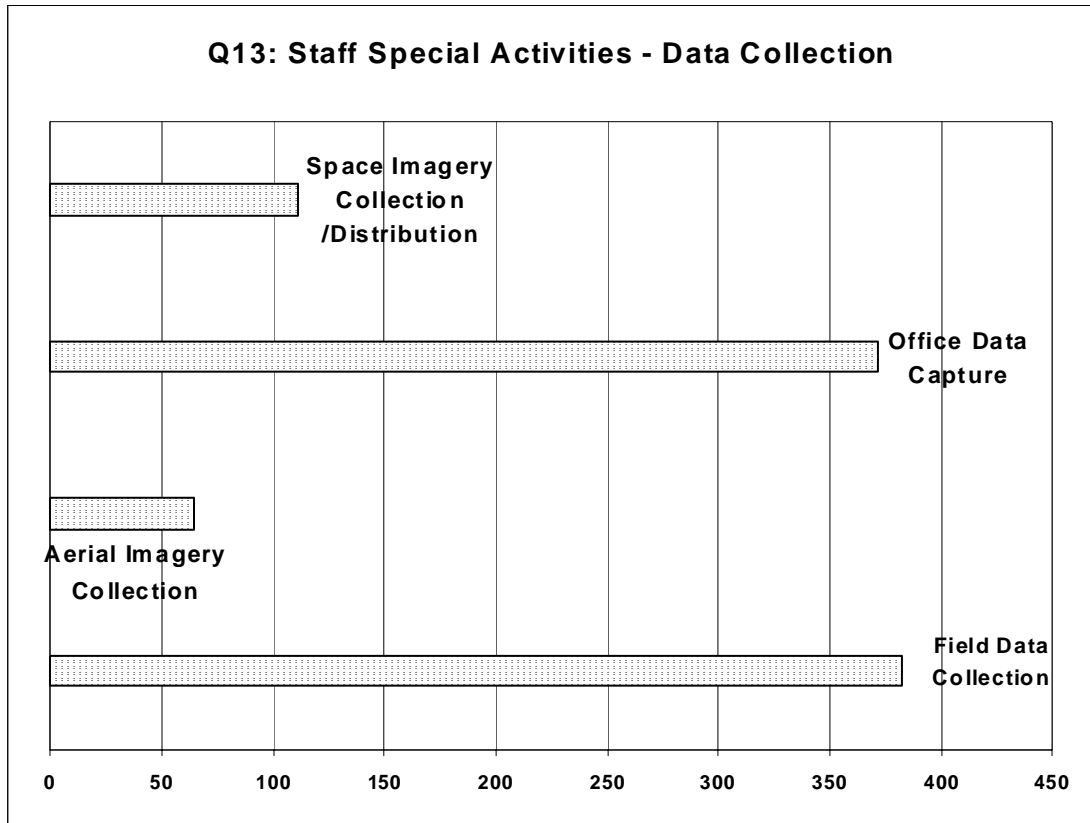
Graph 7



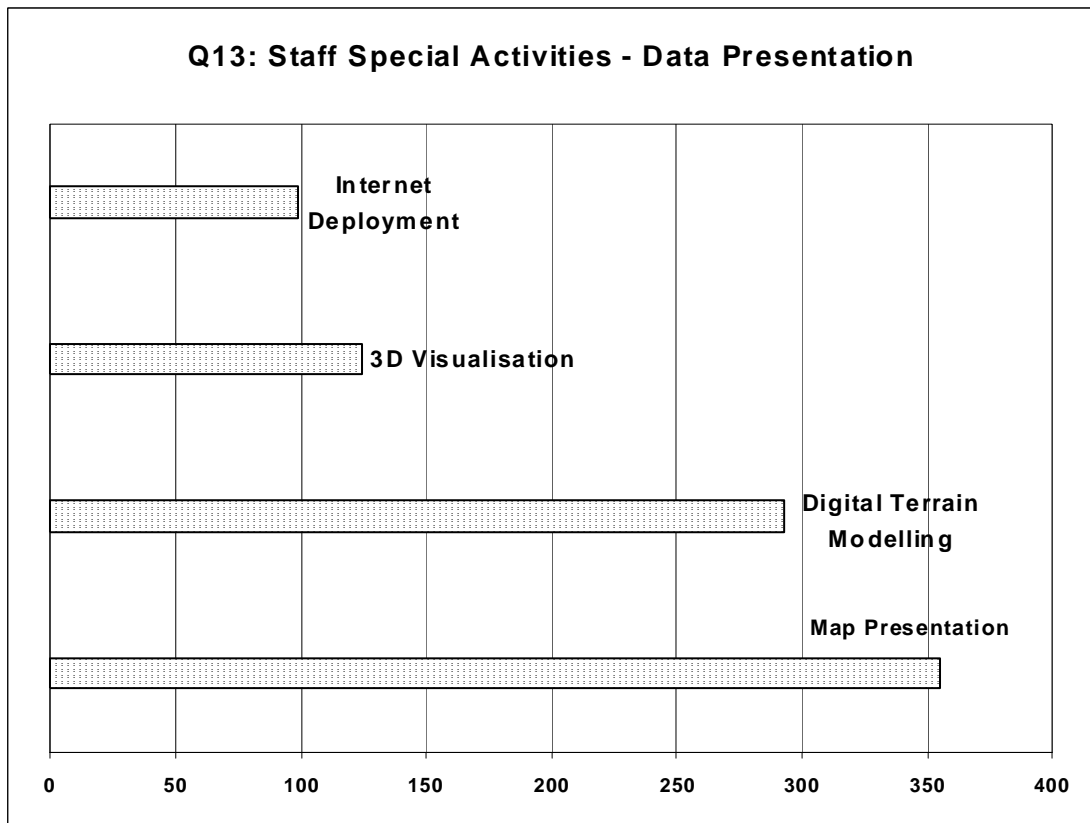
Graph 8



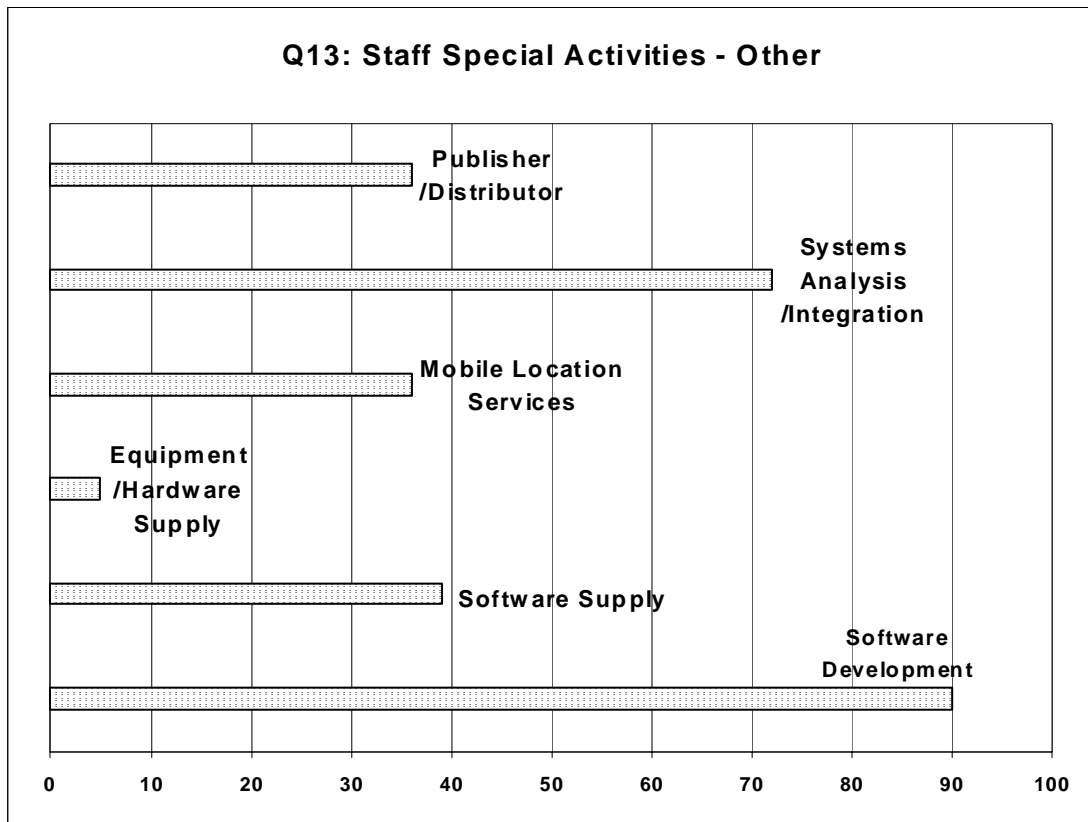
Graph 9



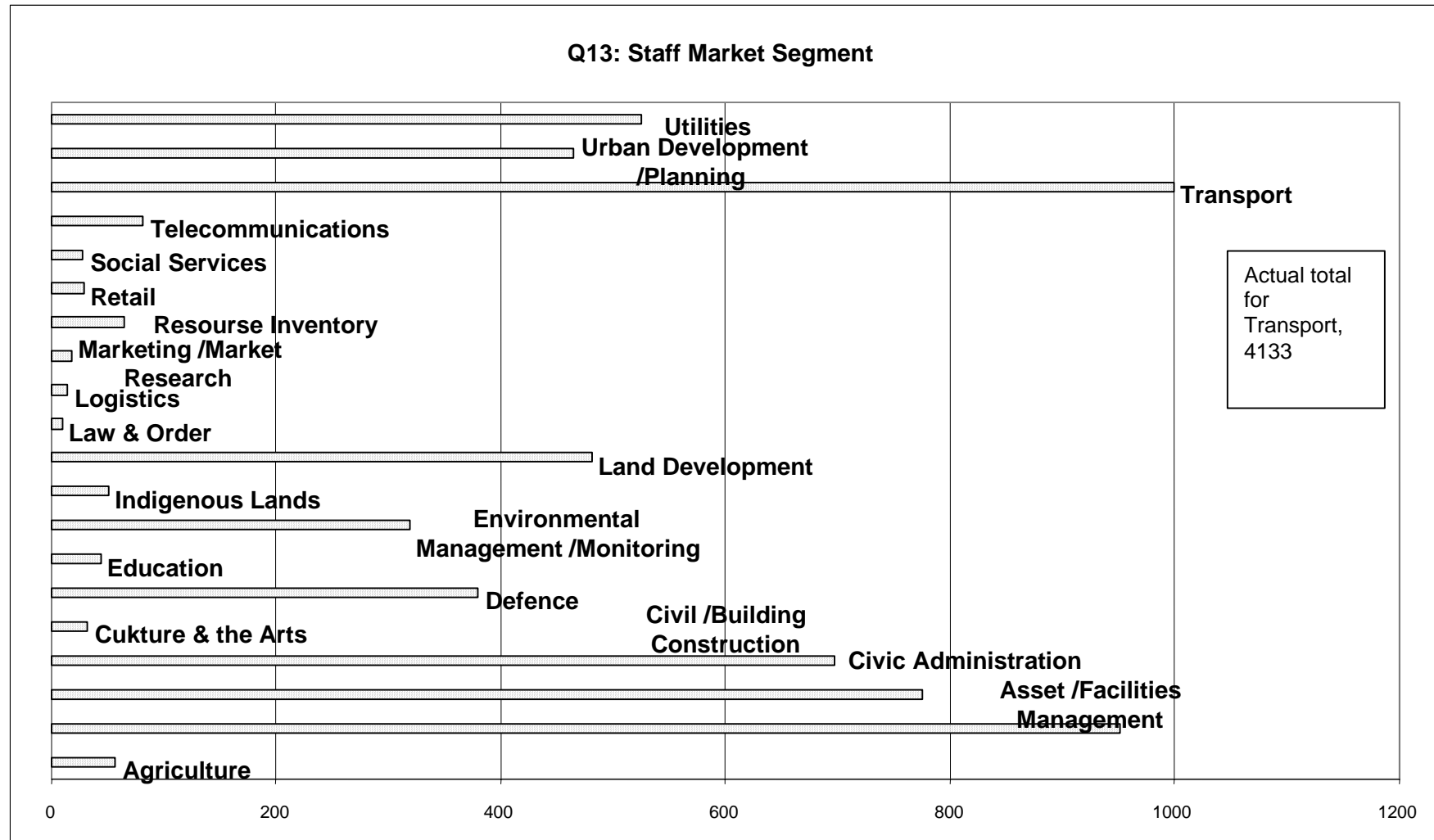
Graph 10



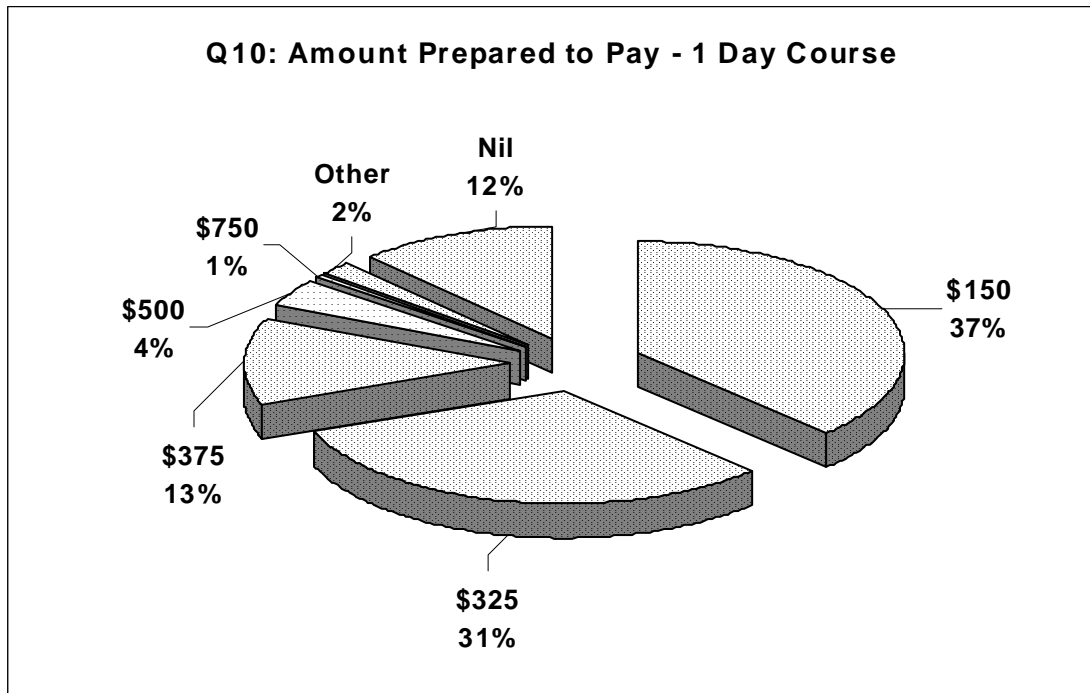
Graph 11



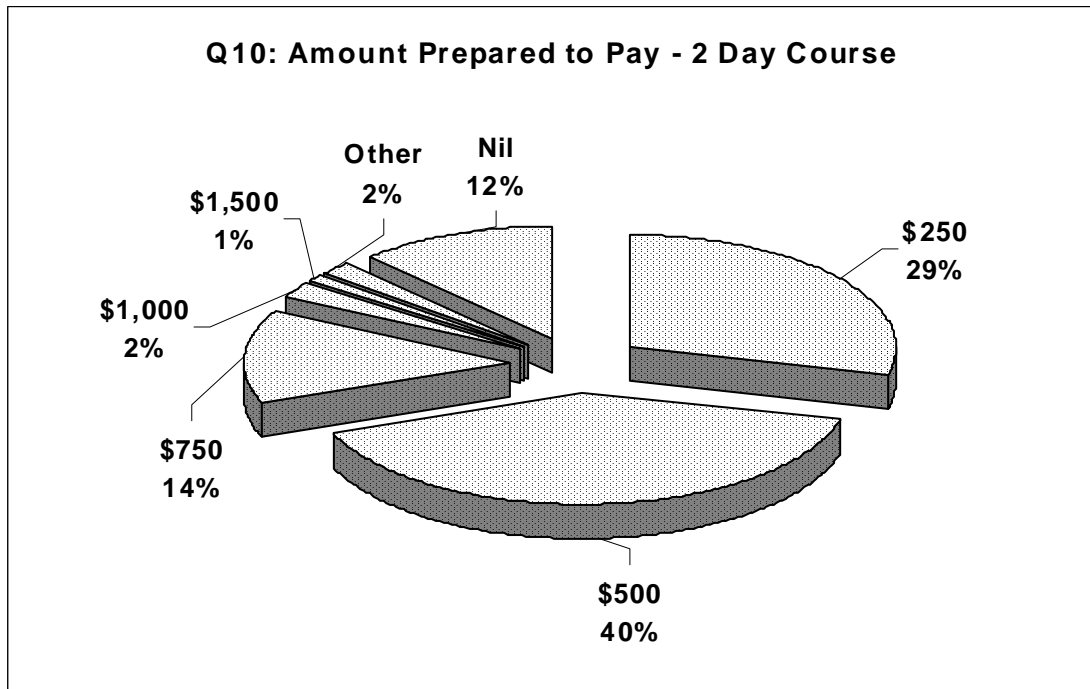
Graph 12



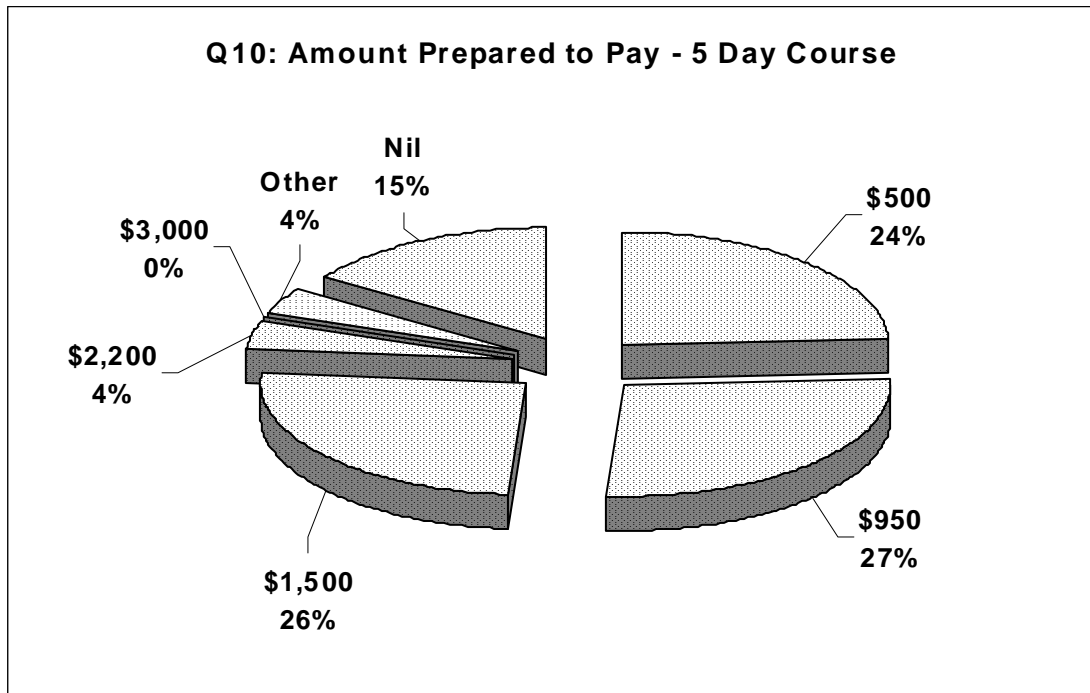
Graph 13



Graph 14



Graph 15



Appendix iii

(Copy)

Queensland Government
Natural Resources and Mines

18 June 2001

Re: Spatial Information Workforce Training Survey

The Queensland Spatial Information Infrastructure Council (QSIIC) is seeking your cooperation to participate in a survey to research the training needs of the spatial information workforce.

The ongoing development of staff involved in the capture and use of spatial information is critical to the development of a spatial information infrastructure in underpinning improved productivity and efficiency of the State's economy. Spatial information describes the location of much of our core infrastructure, such as roads, railways, airports, harbours, public utilities, property boundaries, land administration, agriculture and mining, and is essential for effective planning and management.

The 2001-202 Queensland Spatial Information Infrastructure (QSIIS) Strategic Plan has a vision of "Easy access to relevant and reliable integrated spatial information for Queensland". The strategies in this plan are:

- Promote the benefits of using spatial information
- Stimulate the development of spatial information skills across the country
- Guide the development of spatial information access and pricing regimes,
- Encourage the management of spatial information as an asset and
- Foster collaboration on spatial information issues.

As part of the strategic plan, the Institution of Surveyors Australia – Queensland Division, in partnership with QSIIC, is conducting this survey to research the training needs of the spatial information workforce to prepare the sector for growth.

Your cooperation in supporting the attached survey will assist in building a more effective workforce for the development of Queensland as a smart state.

Yours sincerely

Rob Freeman

Chair, Queensland Spatial Information Infrastructure Council

Appendix iv

18 July 2001

Mr Walter Mayr
Director
Mapinfo Australia Pty Ltd
P O Box 3055
SOUTH BRISBANE QLD

Dear Wal

Spatial Information Workforce Training Survey

Thank you for your response to Greg Hoonhout's call requesting the involvement of MapInfo in the Workforce Training Survey. Information about the survey is outlined below.

The Institution is jointly carrying out the survey with the Queensland Spatial Information Infrastructure Council (QSIIC), whose mission is to build a strong spatial information infrastructure vital to the development of the spatial information industry. A message from Rob Freeman, Chair of QSIIC, is attached.

The data gathered will be analysed and put directly to use by QSIIC and the Institution in their research about skills levels relating to spatial data. Results will be directly useable by the wide range of industries impacted by spatial data, and data from this survey's responses from Mapinfo will be made available to you for future use.

We confirm your willingness to be involved. A copy of the survey is attached. Our data analysis consultants, the Association Support Agency, will send a digital copy to your e-mail address in the near future for circulation.

Let me thank you in anticipation for your time in assisting the Institution in widely distributing this questionnaire, and for directly assisting both QSIIC and your own organisation in the capture of this important information.

Yours sincerely

Peter J Woods
President