

SPATIAL INFORMATION SERVICES PTY LTD

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BIOGRAPHICAL DETAIL

Name: LYONS, Kenneth James **Year of Birth:** 1940
Nationality: Australian **Residence:** Montville Qld, Australia
Marital Status: Married; (No dependent children)
Languages: English (mother tongue), Pidgin - elementary

Education and Qualifications:

- Doctor of Philosophy (Murdoch 1980),
- Master of Surveying Science (UNSW 1970),
- Bachelor of Surveying (Honours IIA), (UNSW 1965),
- Royal Military College Duntroon, (Graduate and First Lieutenant 1962)

Titles:

Professor Emeritus, University of Queensland
Eminent Individual (An award in 2003 by AURISA –Australian Urban and Regional Information Systems Association)
Adjunct Professor University of the Sunshine Coast

Areas of Special Expertise:

- Land, Asset, Natural Resource and Geographic Information for many industry and government sectors
- Land Administration, Property rights, Cadastral Systems, Surveying and Mapping Systems, GPS
- Design, evaluation and leading projects in developing countries concerned with economic and social development
- Strategic, Operational, Productivity Planning, Evaluation and Improvement
- Educational Programs and Industry Training
- Defence Geographic Information
- Remote Sensing, Shallow Water Mapping
- Environmental Impact Assessment and Terrain Evaluation
- Defining and Leading Applied Research and Development Projects

Experience:

- 20 years advising and consulting at a senior level in areas of expertise
- 30 years in land and geographic information systems, remote sensing, cadastral systems and land administration
- 40 years in surveying and mapping (includes topographic, geodetic, map production)
- 35 years in training
- 30 years in tertiary education (includes lecturing, course planning and evaluation, administration and research)
- 18 years in regular army and active reserve in mapping, training, transport, operations (included 1 year commanding a unit in Vietnam)

Current Membership of Professional Organisations:

- Spatial Sciences Institute

Previous Membership of Professional Organisations:

Institution of Surveyors, Australia; Australian Institute of Cartographers; Institute of Australian Geographers; USA Urban and Regional Information System Association; American Society for Photogrammetry & Remote Sensing; Geographic Information & Technology Association; American Society for Quality

Countries of Overseas Work Experience:

Papua New Guinea, Philippines, Indonesia Vietnam, Vanuatu, Namibia, Malaysia, Fiji, Singapore, Thailand, Kiribati, Laos, China, USA, Canada, New Zealand, Solomon Islands

Employment History:

Period	Position/Organisation	Responsibility
1989-present	Managing Director, Spatial Information Services Pty Ltd	Managing a company and leading a group of experienced consultants in projects involving all areas of geographic data handling
1982 - 1993	<ul style="list-style-type: none"> • Professor of Surveying and Land Information, Associate Professor, Head, Department of Geographical Sciences, The University of Queensland. • Founder and Director, Australian Key Centre in Land Information Studies. • Director, Spatial Information Services 	Leading research R & D teams (joint Government & University), developing educational programs & heading a large multi-discipline department.
1988 - 1989	Honorary Fellow Land Tenure Center, University of Wisconsin-Madison, USA	Research land administration systems in developing countries.
1980 - 1981	Professor and Head Department of Surveying and Land Studies, Papua New Guinea University of Technology	Leading a large department. Establishing programs with Government agencies.
1972 - 1979	<ul style="list-style-type: none"> • Lecturer and Senior Lecturer in Surveying and Mapping, Curtin University of Technology • Captain & Major Active Army Reserve 	Developing remote sensing, lecturing in mapping. Conduct officer training in administration & military history. Officer Commanding a water transport unit. Staff Officer in operations.
1970 - 1972	Senior Surveyor, Associated Surveys Pty. Ltd. (WA)	Development of computing and surveying systems.
1959 - 1970	Captain & Lieutenant, Royal Australian Survey Corps, Australian Regular Army, Officer Cadet, Royal Military College, Duntroon	A wide range of surveying and mapping tasks throughout Australia and overseas, including Vietnam.

Publications:

Author of approximately 80 papers and reports in areas of speciality.

Experience:

2004 Australia: Land & Property Market Reform (Qld Dept of Natural Resources, WA Dept of Land Information) (With CCS Surveys Pty Ltd)

Further develop work undertaken in 2002 to identify improvement options to increase effectiveness and efficiency in administration; plan an Australian wide workshop.

2004 –2000, Solomon Islands: Improve Land Administration (an AusAID project)

Technical Director of the contracting team (AACM) and responsible for planning, execution and achievement of deliverables through a team of technical advisors. Prepare annual plans & budgets, review progress. Review Ministry of Lands for sustainability and identify ways to create a sustainable organisation and meet core functions.

2004-3 Queensland: University of Sunshine Coast

Develop strategic plan for the introduction of spatial science into the academic program; plan courses and laboratories; conduct the first subject.,

2004 -3 -2 Australia; Cessnock City Council

Review operation of land information system, rural property addressing project, road centre line data and provide recommendations for improvements. Advise on acquisition of high resolution satellite imagery.

2004 -02 Queensland: Blackall Range Economic Diversification & Strengthening with Sustainability

Develop concepts, plans etc for a local organisation to achieve economic strengthening and diversification whilst retaining the areas natural beauty. Lead discussions with Councils & State Government Agencies. Determine funding options. Prepare analysis paper using system dynamics.

2003 Solomon Islands Improve Land Administration (an AusAID project)

Detailed design of a follow on project to continue the improvement of land administration.

2002 Philippines, Computerisation of Titles Offices

As part of a team from KPMG (USA) & Terra Institute (USA) provide specialist knowledge to the IFC (International Finance Corp – A member of the World Bank Group) to review a US\$100m project to computerise 162 registry of deeds offices in the Philippines.

2002-1 Queensland: Land & Property Market Reform (Dept of Natural Resources) (With CCS Surveys Pty Ltd)

Identify legislation affecting right and responsibilities and list rights,; identify administration systems and cost in establishment and to run annually. Proving recommendations for long term improvement.

2002-1 Queensland: Business Case for Uniform as constructed plans: SE Regional Organisation of Councils (With Grue Stimpson Consulting)

Prepare a business case for uniform standards across all Councils in SE Queensland.

2001 Australia, Thailand, Laos, Vanuatu: Guideline for AusAID Land Administration Projects

Technical consultant and author for guidelines to assist AusAID officers in the selection, feasibility and sustainability of land titling and land administration projects. Resulted in an AusAID Quality Assurance report.

2001 - 2000- Philippines, Land Administration and Management Project (AusAID Project)

Team leader for the design of the AusAID project to support the Government of Philippines – World Bank project in land administration.

2001- 1997, Indonesia; Indonesian Land Administration Project (Aus AID Project)

Technical audits of the project for AusAID and observer for AusAID on the 6 monthly World Bank Supervising Missions.

2001 –2000, Australia: Effectiveness of land Administration Systems & Role of Digital Lodgement of Survey Plans

Member of a small group of consultants that carried out the above Australia wide for the Australian national SDS (spatial data standards) program.

2000 Indonesia; Indonesian Land Administration Project Phase 2 (Aus AID Project)

Carry out a redesign covering Australian assistance to compliment the World Bank.

2000 Australia: GPS Processing Methodology to monitor seal level; AusAID

To review various proposals and to recommend the most appropriate technical method.

2000 Australia, The Digital Lodgment of Survey Plans (Surveyors Board of Queensland and AUSLIG ASDI Program)

As a member of a small team examine the implication for the digital lodgment of survey plans and how it would fit into the future broad picture of land administration.

2000 Australia, Land Information Systems for Esk Shire Council (Cottrell Cameron Steen Surveys)

Provide a method for evaluation of current status and a strategy for LIS development

2000-1999, Australia, Review and Report on AusAID Land Administration projects

Carry out a desk review of a number of project to ascertain lessons learnt and provide recommendations for improvements. Provide a report as part of the Quality Assurance Program. Present results for AusAID at the World Bank Rural Week Conference.

2000- 1999 Australia, Spatial Data Standards, Queensland Surveying Industry

As a member of a small team rewrite the Surveyors Operation Manual and identify ways in which the Surveying industry can participate more fully in the spatial information industry. Identify market segments and training required.

2000- 1999 Australia, LIS Assessment, Muswellbrook Shire Council

Plan a Where At- Where To assessment of current systems and methods & provide recommendations.

2000 -1999 Philippines, Land Administration and Management Project

Act as observer for AusAID on several World Bank supervision missions to assess progress on project design and provide on going advice re design.

1999 Vanuatu, Financial Services Commission

Manage the preparation of a draft Strata Titles Act

1999-1997, Vanuatu, Improved Land Lease Administration, (AusAID Project), AACM International

Design a component to improve technical process and staff; lead a small team of specialists to execute.

1999 Australia, LIS Assessment, Port Stephens Council

Carry out a Where At- Where To assessment of current systems and methods & provide recommendations. Assess appropriateness of current GIS technology. Develop a strategic plan and a work plan for data and system improvement.

1999- 1994, Australia, Integrated Land and Asset Information System, Cessnock City Council.

This was a large and complex project and had many aspects. Responsible for the evaluation of their present methods of handling geographic data in the planning and environment areas, the engineering and administrative areas and the planning of appropriate technology systems, procedures and data handling to allow a wide range of products, to allow planners, environmentalists, engineers, social and economic development personnel to carry out their tasks more effectively, cost benefit analysis, manage implementation plan. Evaluated the present technology and recommended major change and implemented these. Translated large amounts of digital data from Genamap to MapInfo formats and joined the data into seamless sheets. Conducted all the property ID matching between the graphic property parcels and the text property system . Implemented a range of property based applications and products. Examined in detail the asset requirements to comply with AAS27 and developed an asset data collection program and budget: carried out zoning mapping, road asset and software. Regular audits & planning of ongoing development.

1998, PNG; Project Design for Census Mapping for AusAID, IDSS Pty Ltd

Team leader of team to determine feasibility and design as a single component. Included GPS location of every village in PNG, rural & urban mapping to support census, developing products based on a social and economic conditions survey.

1998, China, Project Design for AusAID Project, Anutech

Team leader of design team for a 4 yr, \$7M project aimed at improving land management, land administration, and land titling; spatial data and land parcel information systems were included

1998, PNG, National GIS Workshop PNG (AusAID), Coffey MPW

Design and facilitate a national workshop to determine future directions of GIS based systems and data sets.

1998, Laos; Laos Land Titling Project (an AusAID World Bank Project), BHP Engineering
Determine requirements for surveying and land administration education, review current providers, and develop a strategy for its provision. Project design for a 5 year project to improve surveying, mapping and land administration training and education.

1998-97 , Kiribati; Land Use Planning, (AusAID Project), Uniquet and Benchmark International

Evaluate the way land leases were processed; design and evaluate a pilot project to allow an assessment of land holdings and rents to be made. Conduct training in project planning and management.

1998-1996 , Australia, Department of Public Works and Housing, Queensland State Government.

Responsible for the design of a wide ranging series of Projects to improve the handling of geographic and strategic data: responsible for the detailed design of a GIS Project aimed at asset portrayal and analysis. This is a major Project covering all of Queensland. Implemented a system to speed up the processing of housing reporting statistics: evaluated and redesigned statistics for housing performance in the public sector: supervised the development of a Queensland "Call Before You Dig" system:

1998-1995, Vanuatu, Land Use Planning Project (Aus AID Project) ,Contractor AACM International

Responsible for the development of the information technology approach, the planning for the processing of geographic data to collect and produce land use plans at the national, provincial, and local level, responsible for design and implementation of all training: design of a large component to improve land administration.

1997, Australia; GIS Training Course for Royal Thai Government Officials (AusAID project), Uniquet

Design and conduct of a 12 week training course covering technical and management aspects

1997, Fiji,; GIS Training for Fiji Land Information Group. AusAID

Design and conduct a 2 week advanced course.

1997 - 1994, Papua New Guinea, Australian Component of the Land Mobilisation Project, (AUSAID Project).

As a member and later leader of the AusAid Technical Advisory Group, responsible to give independent advice to AUSAID on this complex project involving land related data, land ownership data, mapping, satellite imagery, aerial photography, topographic mapping and the development of a whole range of map products and reports to assist the economic development based on land in Papua New Guinea. This will continue over a two year period. The project has been evaluated and the parameters for a rewrite of the PID laid down and workshops conducted to define revised components, outputs, tasks and inputs.

1997 - 1995, Namibia, Land Information Systems, AUSAID (Contractor Coffey International).

Responsibility is as team leader of a five person group of specialists covering areas of valuation, titling and related areas to assist Namibian personnel to define and commence implementation of a land information system to support a wide range of economic development activities in planning, local government, land administration and related areas.

1997-5 , Australia, Land Information System and Asset Collection, City of Greater Bendigo.

Responsible for the evaluation of the present method of handling geographic and asset data and developing approaches and budgets for future activities: negotiated with suppliers of geographic data for use by the City.

1997-5, Australia, Conduct GIS Workshops

This involved designing and running separate workshops aimed at project implementation, project management and geographic data processing for local Government group and a mix of commercial organisations

1998 -1995, Australia & Fiji, Facility Information System, Fiji Post and Telegraph

Advised senior management on the implementation process and options, costs, timeframes etc: evaluated an equipment proposal and conducted detailed briefings and site visits in Australia for the project manager. Evaluated and recommended on hardware and software tender evaluations: redesigned the Project plan: assisted in the negotiations of hardware and software with the vendor and assisted in the installation of the network: training of staff for data capture: and routinely monitor Project performance and adjust accordingly.

1996-1995, Australia, GIS Analysis and Mapping, Noise Patterns, Brisbane River Catchment, John Butler Consulting

Responsible for inputting a large range of data on noise sources, population distribution, land use zones, and topographic data into a GIS database and then carrying out an analysis to determine population numbers affected and to map the results at a variety of scales.

1995, Indonesia, GIS Workshop and Project Design, John Butler Consulting

Conducted a hands on GIS workshop and subsequently established the process for the design of a GIS to handle the planning and development of a 20 yr urban development project outside Jakarta and discussed the training requirements with staff at ITB Bundung.

1995, Australia, GIS database for Emissions, Coffey Partners

Advised on the process to design and build a GIS database(linked to an Access database) to allow the spatial analysis of a wide range of point and area based emissions covering approx 100km radius of Sydney.

1996-95, Australia, Landcare Program and GIS, Dept of Primary Industry and Energy (Federal)

Responsible to determine if and how GIS databases in a large number of Federal government departments and agencies and state government departments could be used to evaluate the Landcare program.

1996 - 1989, Australia, Geographic Information System Course for Overseas Participants, University of Queensland, SAGRIC International

Responsible for the design and conduct of courses in the above area. The courses run over a ten week period and cover all aspects of geographic information handling. Participants come from a wide range of professional areas and a wide range of countries through the Pacific, South East Asia., Asia, Middle East, Africa.. During this time ten courses have been run.

1994, Australia, Holsworthy Army Training Area, UXO data collection by GPS and GIS Mapping, Coffey Partners

Design and development of a GIS database and the data capture of a large number of used and unexploded ordinance using GPS and attribute data loggers. This was a very intense operation because of time constraints and the amount of data to be collected. Detailed GIS analysis by attribute was also carried out and a wide range of thematic maps were produced.

1994, Fiji, Geographic Information Handling Training, AUSAID.

Responsible for the design and conduct of a three week intensive course for twenty participants for a wide range of government departments in the use of geographic information software and the planning of these systems to support departmental business objectives.

1994, Australia, Land and Municipal Information System, Wodonga City Council.

Responsible for the evaluation of their present methods of handling geographic data in the planning and environment areas, the engineering and administrative areas and the planning of appropriate technology systems, procedures and data handling to allow a wide range of products, to allow planners, environmentalists, engineers, social and economic development personnel to carry out their tasks more effectively, cost benefit analysis. Evaluate vendor and data provider proposal and recommend on GIS hardware and software and data most suitable for the Council's needs.

1994 - 1993, Australia, Develop GIS Training Modules Australian Institute of Spatial Information Systems.

Develop six GIS training modules covering wide aspects of GIS knowledge. Students and instructor notebooks were produced.

1994, Australia, Land and Municipal Information System, Fairfield City Council.

Responsible for the evaluation of their present methods of handling geographic data in the planning and environment areas, the engineering and administrative areas and the planning of appropriate technology systems, procedures and data handling to allow a wide range of products, to allow planners, environmentalists, engineers, social and economic development personnel to carry out their tasks more effectively, cost benefit analysis. Evaluate the procedures and products being produced and institute procedures to improve productivity and to provide more benefits to the organisation as a whole. Results a year later confirmed significant increase in benefits.

1994, Australia, Barung LANDCARE Group.

Responsible for identifying strategic data that would be required to be collected and handled to support a range of environmental and land use activities.

1994 - 1993, New Zealand/ USA, Auckland City Council Land Information System (Utility Graphic Consulting-USA).

This was a major project for the largest local government in New Zealand and involved the design and implementation of an integrated property and asset information system for a central and six regional offices. The task covered the evaluation of their present methods of handling geographic data in the planning and environment areas, the engineering and administrative areas and the planning of appropriate technology systems, procedures and data handling to allow a wide range of products, to allow planners, environmentalists, engineers, social and economic development personnel to carry out their tasks more effectively, cost benefit analysis. Significant attention had to be paid to the data conversion aspects & options for the graphic property base and the assets. Separate plans were developed for, strategy, design, cost benefit, implementation, property data conversion, asset data conversion, orthophotography. Several workshop were held in the USA at the headquarters of UGC Consulting. UGC Consulting is one of the worlds largest firm specialising in Spatial Information consulting.

1993, Australia, Kangaroo Management System, Queensland National Parks and Wildlife Service.

Responsible for working with a range of professionals involved in animal habitat, particularly kangaroos, to identify the data required and the method in which that data would be handled, the type of technology required to develop an operational system to support kangaroo management.

1993, Australia, Australian Army, Terrain Analysis, Royal Australian Engineers.

Identification of data sets required to support operations of the combat engineers in support of the land forces of the Australian Army.

1993, Australia, Emergency Mapping System, Queensland Bureau of Emergency Services.

This was a major project covering the Services for Fire (Urban and rural), Police, Aviation, Chemical Hazard, Emergency Response and to eventually cover the whole of the state of Queensland.

Responsible for the development of a strategic plan, the identification of all data sets required and the way in which they would be handled, the installation of a data capture facility to enable the database to be populated, preparation of a cost benefit analysis.

1993, Australia, Business Geographics Products, Marketshare Pty Ltd

This was a number of separate assignments over a one year period. Responsible for the processing of a wide range of economic data in conjunction with mapping data to identify strategic stores location and product mix, and to identify socio-economic groups in particular areas related to products.

1993, Australia, Facility Information System, UGC Inc (USA)

Review (with other team members) the present system of handling geographic and asset data of the State Electricity Commission of Victoria. The aim was to develop a plan that would support the information needs of the corporation for assets as it was planned to split the organisation into a number

of business units. The system was to provide information to all the regional and main offices throughout Victoria. Extensive interviewing was conducted.

1992 - 1989, Philippines, Natural Resource and Management Project, (AusAID), SAGRIC International Pty Ltd,

This was a very large AUSAID project, the NRMDP (Natural Resources Management and Development Project). Responsibilities over the time frame included the design and conduct of training in geographic information handling, the evaluation of the land administration component, the development of downstream project proposals and the evaluation of several segments of the land administration process. Considerable interaction was necessary between the components dealing with natural resource planning and those dealing with land administration and related information.

1990, Philippines, Human Resources Development, Department of Environment and Natural Resources, (AusAid), SAGRIC International Pty Ltd.

This was an AUSAID project and responsible as a member of a team to carry out the feasibility study and project design and develop the plan for the enhancement of human resources in the Department of Environment and Natural Resources to design an information system to support that. The land record of the Integrated Social Forestry Program were fully evaluated and the training required to implement that system was evaluated.

1985 - 1990, Australia, a range of Integrated Land and Geographic Information Projects, Queensland State Government.

During this period I was Director of the Australian Key Centre and Land Information Studies, Professor of Geographical Sciences at the University of Queensland and leader of a joint University and Government team on a large range of projects all concerned with geographic data handling to support economic and social development. The projects in this area, each of which ran over a two year period, were:

- The Far North Queensland Regional Geographic Information Project - trial of a regional GIS
- The Crown Land Evaluation Project - identification and allocation of land use
- The Urban Land Information System Project - built the first LIS in Queensland
- Land Tenure Information System - built a pilot linking data from four departments

The Far North Queensland Regional Geographic Information Project - trial of a Regional GIS

This was a major project involved in determining the data sets that were required for regional and detailed studies and determining how these would be obtained and then collecting them. Remote sensing was used extensively. Satellite links were tested to determine the effectiveness of updating graphic data base over long distances by this technology. Extensive GIS analysis was done.

The Crown Land Evaluation Project - identification and allocation of land use

This was a major project aimed at determining the effectiveness and procedures necessary to plan the most appropriate land use for government land in a prime tourism and potential urban area. It covered a major area in Coastal North Queensland.

The Urban Land Information System Project - built the first LIS in Queensland

This project built the first prototype LIS in Queensland and developed the procedures necessary for other projects to follow on from.

Land Tenure Information System - built a pilot linking data from four departments

This project was a study to identify the range of ID's used to identify land parcels in Queensland Government departments and then to determine the procedures to integrate them and the benefits that would be obtained by having a "corporate" cadastral database.

1984- 1986, Papua New Guinea, Shallow Water Mapping, AUSAID.

Responsible for the evaluation of using remote sensing from the Landsat satellite data to identify potential fishing areas and potential areas for the safe navigation of shipping.

1980 - 1981, Papua New Guinea, PNG University of Technology.

This was a two year full time posting as Professor and the Head of Department of Surveying. I worked extensively with Government in a range of geographic information handling projects for the development of the country.

1975-1979, Australia, Shallow Water Mapping by Remote Sensing

In co-operation with a group from the CSIRO carried out shallow water mapping over the Monte Bellow areas in WA and conducted a number of investigations into its applications to uncharted areas of tropical Australia.

1970-1963, Australia, Vietnam, Surveying and Mapping, Geodesy, Australian Army

As an officer in the Survey Corps of the Australian Army carried out a wide range of field and office projects covering all aspects of geodesy, surveying and map production.

Professional Activities:

- Member of Review Group of Federal Department of Arts, Tourism, and Environment for ERIN (Environment Resource Information Network), 1990
- Member of Editorial Board LANDMARC/MCB Journal of Sustainable Development
- Member of Editorial Board of URISA Journal, 1989
- Member of Steering and Management Committee of an International Land Management Research Centre, 1988-1992
- External Adviser in Surveying and Land Information PNG University of Technology, 1982 - 1986 and MARA Institute of Technology, 1987 - present.
- Consultant to Federal Public Service Board on Surveying and Mapping re- organisation, 1986.
- Member of Australian Government Advisory Committee on Surveying and Mapping 1984 - 1988
- Member of Australian Agriculture Remote Sensing Committee, 1988.
- Consultant to Queensland Government Land Information Steering Committee, 1986-87
- Consultant to Queensland Government Review of Land Information, 1987
- Chairman of two large joint Government, Industry, Academic Land Information Research Project, 1986-88
- Member of the Queensland State Government Steering Committee for the Digital Cadastre Data Base, 1986-88
- Federal Council, Institution of Surveyors, 1982, 1983
- Convenor, Mapping and Charting Committee, Institution of Surveyors, 1978 - 1980, 1984
- Member, Queensland Board of Surveyors, 1983 - 84.
- Chairman, Queensland Surveying Technical Advisory Committee, 1983-84.
- Member, Editorial Committee, Landsat 84, Canberra.