Collaboration is a key to success

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Australia & New Zealand Cooperative Research Centre for Spatial Information (CRCSI)
The Australia and New Zealand Cooperative Research Centre for Spatial Information

First funded in 2004 - joint venture of about 100 government, academic and private sector organisations

Undertakes user led research involving spatial technologies to solve complex problems of national significance for Australia and New Zealand

Overall goal is to accelerate the spatial enablement of Australia & New Zealand

National Positioning Infrastructure, strengthening skilled capacity, supporting industry growth, ‘open data’, productivity improvements

https://youtu.be/-eELtiUDwrl?list=PLEmvU71m0g6dXCIYN2YkwhcNBu6K2GPUk
Geographical distribution of current research students
International Collaborations
Impact

Initial Impact:

Benefits – $305M

Costs – $187M

- Avoided Vegetation Management costs in Electricity industry 32%
- Implemented SLR tools, maps & data sets & Data Portal 14%
- Improved Spatial infrastructures in Government 3%
- Spatial industry growth from Value added data 0%
- Efficiencies of Creative Commons licensing 13%
- Agriculture Decision Support Farm tools 12%
- Urban planning Decision Support tools 7%
- Health Decision Support tools 4%
- Postgrad completions 1%
- Avoided costs of labour (new workflows/software) 2%
- Measure
- Integrate
- Deliver
- Use
Research Programs

- **NATIONAL PRECISE POSITIONING**
  Focused on solving multi satellite (GPS etc.) signal processing and economic impediments to the creation of precise positioning services operating at less than 2 cm (x/y) accuracies.

  E.g. supports autonomous operations such as remote mining.

- **RAPID SPATIAL ANALYTICS**
  Improve the lag between data capture to valued information generation through automation, from devices and cloud-based infrastructure.

  E.g. Provide answers and not just data.

Internet of Things / Sensor Networks
Research Programs

- NEXT GENERATION SPATIAL INFRASTRUCTURES

To identify and exploit the emerging capabilities of the semantic web to enable smarter and automatic data linkages along an information supply chain to create value-added applications.

E.g. Information discovery, linkage and output generation through smarter data models and cloud services to link.
ANZ Foundation Spatial Data Framework

Source: Office of Spatial Policy
Research Programs

- **APPLIED RESEARCH**
  
  *Agriculture, Natural Resources and Climate Change (4.1):* applying ways to automate estimation of biomass and improve carbon monitoring systems on farms and through improved environmental monitoring tools;

  *Defence (4.2):* by adapting the capabilities of CRCSI’s research portfolio;

  *Health (4.4):* by helping agencies to spatially enable their clinical databases and improve service delivery;

  *Built Infrastructure (4.5):* Applying economic focus to spatial modelling supporting sustainable built infrastructure development.
CRCSI developed technology enables efficient, accurate capture infrastructure from planes

Achieves what a pilot can not

Gave rise to the world’s largest routine data capture program of powerline network (150,000km per year)

Game changer – previously to fly 1/20th of this took days to plan, weeks to capture, months to process and analyse is now completed within 24 hrs


Technology licensed globally and spin off process well advanced

Will help improve air safety regulations for autonomous aircraft

George Curran, CRCSI
Greyfield Planning
Smart tools for sustainable urban growth and greyfield redevelopment

Welcome to Greyfield Planning, the website for the Greening the Greyfields project that has been developing spatial planning tools and strategies since 2011 to assist planners and policy makers in the sustainable revitalisation of Australian middle suburbs. Research on the project is being undertaken by Curtin University, Swinburne University of Technology and the University of Canterbury with funding from the Cooperative Research Centre for Spatial Information (CRC-SI) and funding and in-kind support from a range local and state government entities in Australia and New Zealand. To date the Greening the Greyfields project has produced 3 web-based spatial planning tools: ENVISION, Envision Scenario Planner (ESP) and REZONE. You can find out more information about the applications by checking them out below.
Epiphanee

Web enabled Data Mining, Visualisation and Geoanalytics Tool

Epiphanee is an advanced GeoVisualisation prototype tool that allows anyone to work with unit record data, dynamically query this data while maintaining confidentiality (privacy) within the results generated. It has been developed through the Corporate Research Centre for Spatial Information (CRC-SI) with the specific aim of increasing access and use of Health Data across the sector while ensuring no personal information is disclosed. Epiphanee is a prototype that has been developed by the CRC-SI under research project activity with the Department of Health (DoH), under the Health program of the CRC-SI.

Note

To access an Epiphanee instance you will require a username and password from the CRC-SI, these are specific to each instance.

Bureau of Meteorology

- Groundwater bores, dams, and streamflow information.

Department of Health - WA

- Patient mortality and morbidity data for a range of diseases.

SLIM

- The Strategic Land Information Management (SLIM) Epiphanee demonstrator was developed for the
White House Launch of the Climate Data Initiative

https://www.youtube.com/watch?v=pfe5oRdsCp0
Pacific-Australia Climate Change Science and Adaptation Planning (PACCSAP) Programme
Cyclone Pam Crisis Map

Google map tools adapting to aid in disaster recovery
Growth Areas/ New Opportunities post 2018

- Geodetic Research program & NPI research Engine
- Satellite Convergence Program
- Intelligent & Autonomous transport regulatory reform
- Real-Time Video Analysis (Satellites, Aerial etc)
- Renewable Energy
- BIM2GIS – Construction Industry
- Spatial enabling health Insurance data
- Medical and human imaging
- Fitness Devices, Biodata, Smart Homes and Internet of Things
- Centralised patient data records in health.
Summary

- Skilled resources in software tool development
- Excellent Consulting Skills with Multi-Disciplinary team
- Track record in Rapid Prototype Development based on client needs and time frame
- Agile & Efficient project management structures
- Quality deliverables on time & within budget
- Won several Industry awards at local and global level
Summary

This is the only spatial research organisation in Australia and New Zealand with the critical mass, experience, requisite skill sets and established network of collaboration to tackle complex spatial research challenges across three sectors; government, private and research, in Australia and New Zealand.