

Australian national spatial information training

Session: international perspectives on GIS Education

ESRI education User Conference 2008

Paper : 2026

The Australian model for providing a national spatial information training program.

Noel Hamey

Education Manager

Building & Environment Centre

Canberra Institute of Technology

150°45'00"

2008

2009

2010



- **Introduction and background**
- **Spatial information training model**
- **Pathways and new incentives**
- **Expectation for the next 5 years**

150°45'00"

2008

2009

2010



Introduction and background

In 2001 the Commonwealth Government of Australia recognised the significant role the spatial industry contributed to the economy and commissioned the action agenda – Power for Positive Growth, to form a stronger cohesive industry.

150°45'00"

2008

2009

2010



The Australian spatial information industry is now represented by one organisation – Spatial Sciences Institute (SSI).

Surveying, mapping sciences, mine surveying, photogrammetry & remote sensing, AURISA

Since the implementation of the action agenda the spatial information industry has been experiencing strong growth across its many diverse sectors

150°45'00"

2008

2009

2010



Australian national spatial information training

- Like many industries in Australia the spatial information industry is experiencing a skills shortage.
- In response, the industry through the national Spatial Education Advisory Committee (SEAC), has taken the initial steps to address this situation and achieve a common and comprehensive national strategy.
- SEAC membership comprises representation from peak Government agencies and education associations, including the Construction & Property Services Industry Skills Council (CPSISC).



Australian national spatial information training

- **National and state involvement in training.**
- **CPSISC is responsible for the national qualifications and units of competency developed for the spatial information industry in Australia.**
- **CPSISC is a not-for-profit industry organisation established by the Commonwealth Government to develop and maintain national competency-based qualifications in the vocational education and training sector for industries, including spatial information and provide advice to Government on skills development and related issues.**

CPSISC - construction & property services industry skills council

150°45'00"

2008

2009

2010



Designed for delivery within an education system or in the workplace.

Meeting the needs of a changing workplace environment

150°45'00"

2008

2009

2010



Spatial information training model

The suite of spatial information qualifications range from a Certificate II thru to Advanced Diploma. Commencement at the school level is possible thru school based apprenticeships and vocational education training in schools initiatives.

150°45'00" 2008 2009 2010



Over the past 5 years spatial information education and training has adopted the Certificate III, Diploma and Advanced Diploma qualifications.

The recent review has seen the addition of certificate II and IV. Providing more flexible career opportunities and pathways



Spatial information Services - qualifications

AUSTRALIAN QUALIFICATIONS FRAMEWORK

Vocational Education

Universities

Schools

Certificate 2
Certificate 1
Senior
secondary
Certificates of
Education

Vocational Grad Dip
Vocational Grad Cert

Adv Dip / Ass Degree
Diploma
Certificate 4
Certificate 3
Certificate 2
Certificate 1

Doctoral Degree
Masters Degree
Graduate Diploma
Graduate Certificate
Bachelor Degree
Advanced Diploma
Diploma

The suite of qualifications are contained within a “training package”

A Training Package is a set of nationally endorsed standards and qualifications used to recognise and assess the skills and knowledge people need to perform effectively in the workplace.



Australian national spatial information training



Training Packages are a key resource for registered training organisations (RTOs) in the delivery of structured, accredited training.

A Training Package states what competencies need to be achieved but does not prescribe how an individual should be trained. It is the responsibility of the RTO, through its trainers, to develop teaching strategies and assessment methods to meet the needs, abilities and circumstances of learners.



The purpose of a Training Package is to:

- **enable qualifications to be awarded through the direct assessment of competencies,**
- **encourage the development and delivery of training to suit individual needs,**
- **encourage learning in a workplace environment provides a pool of potential employees who meet nationally recognised standards of competence in a particular area.**

150°45'00"

2008

2009

2010



The benefits of Training Packages include:

- **Training meets the needs and requirements of industry and standards set by industry.**
- **Qualifications are consistent and nationally recognised, making it easier for students to move between states and territories and for employers to hire people who have worked for other companies or moved from interstate.**
- **Students and employees have the flexibility to choose how, when and where the training is undertaken.**
- **Individuals and businesses are assured of the quality of training and qualifications in areas that specifically suit the needs of the enterprise.**



Australian national spatial information training

Endorsed components

The three compulsory endorsed components of a Training Package are:

national competency standards – the skills and knowledge a person must be able to demonstrate at work are defined by industry and packaged into combinations that form various qualifications aligned to the Australian Qualifications Framework (AQF).

national qualifications – all qualifications (certificate I, II, III, IV, Diploma, Advanced Diploma) for an industry and the units of competency required for each qualification. For example, Diploma In Spatial Information consists of 7 core competencies and 9 elective competencies

150°45'00"

2008

2009

2010



assessment guidelines – the requirements for an individual's performance to meet the competency standards. They are designed to ensure judgments made by the people assessing the competence of an individual's performance are valid, reliable, fair and consistent.

Support materials - these may consist of case studies, vendor resources, worked examples

150°45'00" 2008 2009 2010



TRAINING PACKAGES

ENDORSED

STANDARDS

*ASSESSMENT
GUIDELINES*

QUALIFICATIONS

SUPPORT MATERIAL

**LEARNING
STRATEGY**

**ASSESSMENT
RESOURCES**

**PROFESSIONAL
DEVELOPMENT
MATERIALS**

Australian national spatial information training



The qualifications have been developed to service the surveying applications and the wider spatial information industry sectors to meet the changing needs of the industry.

As the qualifications are recognised nationally, they provide for flexible cross border or intra-state migration of training and workforce skills.

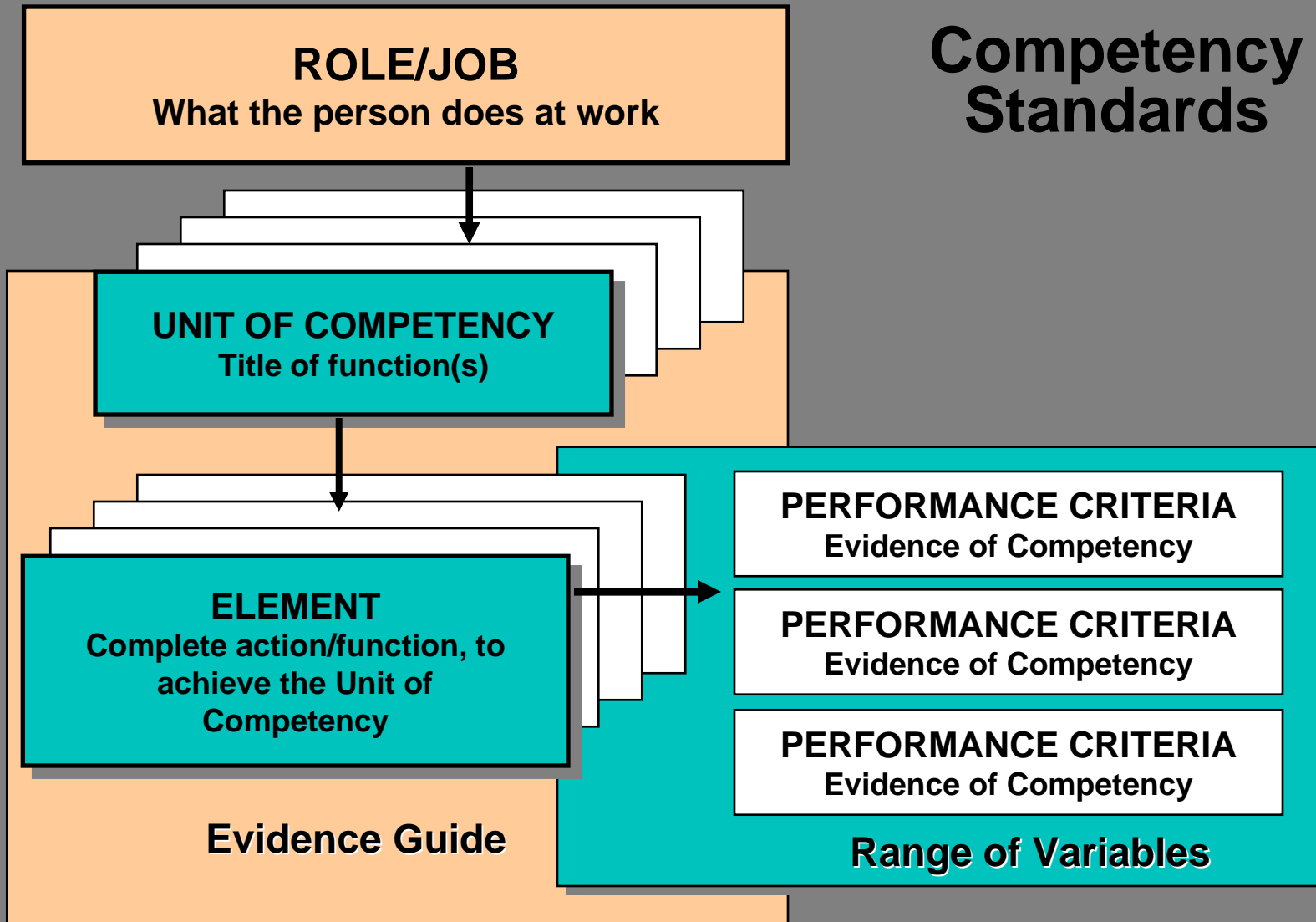
In addition it allows for consistency in delivery of training and resources at the local and regional level.

The qualifications will provide a framework to support the continued development on improving the quality of the future spatial information workforce.



Spatial information Services - qualifications

Competency Standards



Spatial Information Qualifications

<i>Qualification</i>
<i>School based program</i>
Certificate II of spatial information
Certificate III of spatial information
Certificate IV of spatial information
Certificate IV of surveying information
Diploma of spatial information
Diploma of surveying information
Advanced Diploma of spatial information
<i>Continue on to undergraduate qualification</i>

150°45'00"

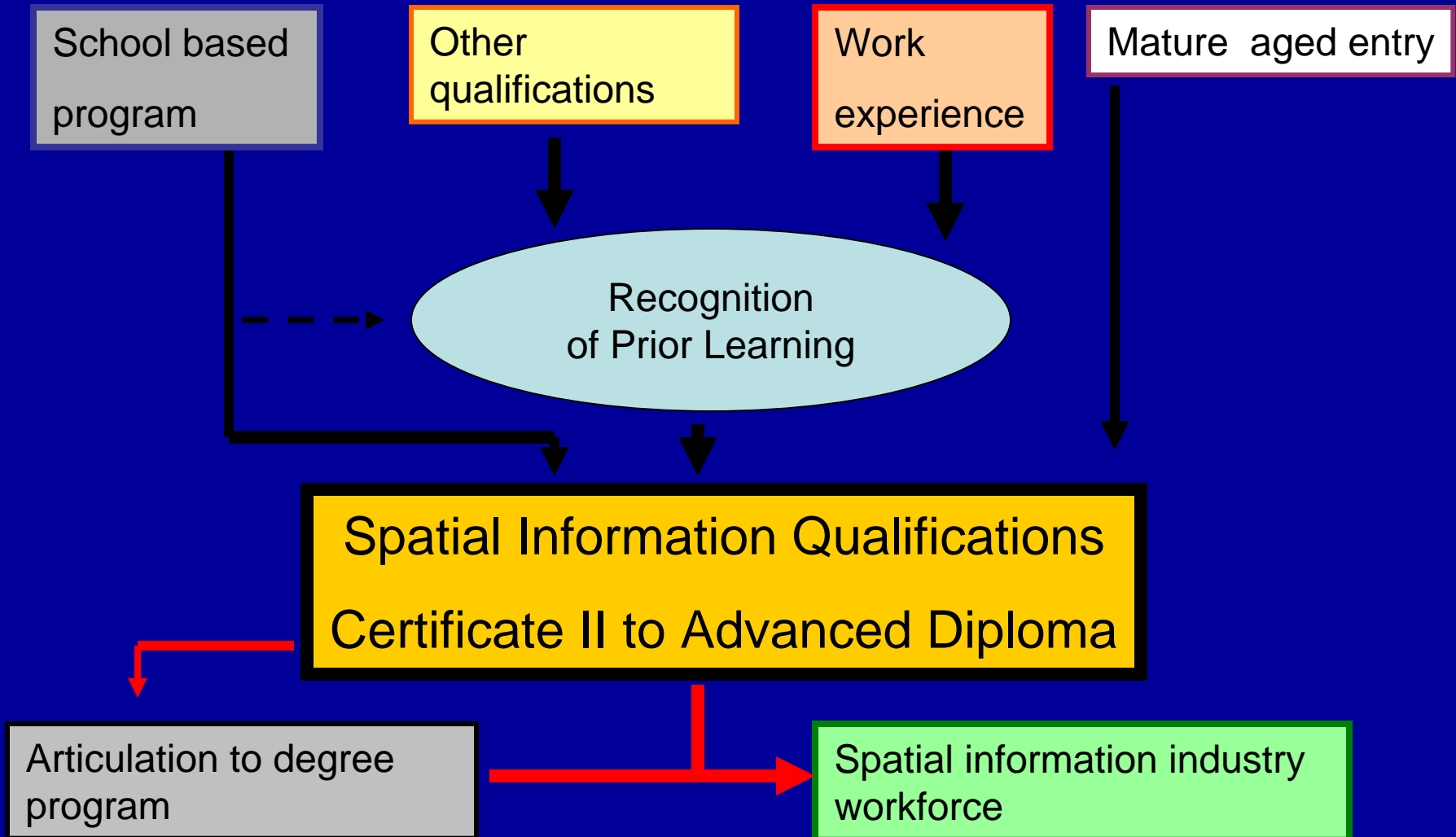
2008

2009

2010



Spatial Information Qualifications pathways



Pathways and new incentives

Pathways – promoting the options

On job training and learning options

Apprenticeship scheme

– introduction of higher qualifications

150°45'00"

2008

2009

2010



Expectation for the next 5 years

Implementation of spatial
information industry workforce plan
on Education & Skills Formation

150°45'00"

2008

2009

2010



Other influences

Spatial literacy – embedding in K-12

Technology - developments in both hardware and spatial applications or associated software

Increasing demand of spatial applications from other industries or professions

150°45'00"

2008

2009

2010



Thank you

If you would like more information on spatial
information qualifications

Please contact

Noel Hamey noel.hamey@cit.act.edu.au

Or visit www.cpsisc.com.au

150°45'00"

2008

2009

2010

