

Submission on the exposure draft Automatic Mutual Recognition (AMR) legislation to improve occupational mobility

Impact on the Surveying and Spatial Science Professions

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Introduction

The Surveying & Spatial Sciences Institute (SSSI) is the peak national body for all professionals and custodians of quality spatial (location) data creation, storage, maintenance and use in Australia. This includes surveyors - cadastral, hydrographic, geodetic, engineering and mining; spatial scientists; cartographers; photogrammetrists and remote sensing/earth observation professionals.

SSSI provides continuous professional development and competency assessments for its members, along with numerous forums for the sharing of ideas, opportunities for the mentoring of its members, along with professional networking events, webinars and conferences.

On behalf of our members, SSSI welcomes the opportunity to provide a submission to the Deregulation Taskforce, based in the Department of the Prime Minister and Cabinet (the Department) on the proposed exposure draft legislation and the proposed automatic mutual recognition scheme.

This response is prepared to inform the Taskforce of the impacts the proposed AMR legislation will have on the professions of Surveying and Spatial Sciences.

About the Surveying and Spatial Sciences Profession

Of the sectors represented by SSSI, it is the surveying profession that will be affected by the proposed AMR legislation. A surveyor is a professional person with the academic qualifications and technical expertise to determine, measure and represent land, three-dimensional objects, point-fields and trajectories. Surveyors also assemble and interpret land and geographically related information, to use that information for the planning and efficient administration of the land, the sea and any structures thereon.

To gain an understanding of how, it may be useful to the Deregulation Taskforce to be briefed on the various surveying and spatial science professions and their current legislation regarding work jurisdictions. This is summarised in **Appendix A – Summary of Surveying Professions and existing jurisdiction legislation** and **Appendix B – Summary of Spatial Professions and existing jurisdiction legislation**

Impacts of the AMR Legislation on these Surveying and Spatial Professions

SSSI supports the implementation of common national standards across the spatial professions where there is no conflicting state or federal legislation.

Of the key professions under SSSI, the following summarises how they will be impacted by the proposed AMR legislation.

Cadastral Surveyors

For our profession of concern, Cadastral Surveyors will be most affected by this legislation due to inconsistencies between jurisdictional legislation. The other disciplines allow for automatic mutual recognition to be possible, with the exception of mining surveying where differing state legislation also adds complexity.

It is likely that each jurisdiction, or their various Land Surveyors Licencing/Registration Boards, will apply for exemptions from this legislation for the following reasons:

- Mutual recognition for licenced/registered land surveyors has been in place in Australia/NZ for over 100 years under agreements in place through the Council of Reciprocating Surveyors Boards of Australia & New Zealand (CRSBANZ). This system is functioning well and should remain as the vehicle for automatic for cadastral surveying due to various complexities. There is little or no impediment to Licensed / Registered Surveyors moving between jurisdictions.
- The value of land under-pins the economy in our society due to the stability of land values and that Australians enjoy certainty of title (land ownership). This is ensured by the licensed / Registered professional surveyors within each jurisdiction carrying out their responsibility for administering the legal requirements of boundary creation and registration, which provides the public and business with surety of title.
- The current system has resulted in very little litigation relating to land matters.
- Professional Indemnity insurance cover needs special consideration if the AMR legislation proceeds due to the legal responsibilities of licensed / registered surveyors of boundary creation and the differing legal requirements between jurisdictions. If errors occur in boundary definition the impact is often on members of the public and may take some time to become apparent.
- The AMR legislation may make it difficult for both the registration body (the relevant Land Surveyors Licencing / Registration Board) and the 'client' to ensure that Professional Indemnity for cadastral surveying is portable between the jurisdictions. The insurance companies, once they understand the implications may or not be prepared to provide such cover on a national basis.

The existing mutual recognition framework is sufficient for licenced/registered cadastral surveyors. However, to achieve legislative objective of streamlining occupational registration processes, where individuals seek to work in a second or subsequent jurisdiction, further legislative reforms are required to achieve federated cadastral system.

The areas requiring reform include:

1. Mutual recognition of training and experience is difficult and uncertain due to varying State based legislation. With recognised National shortage of surveyors (see <https://www.alifewithoutlimits.com.au/increased-demand-for-surveyors/>) there an urgent need to support surveying graduates to complete post graduate training (current average over 5 years from graduation to licencing/registration).
2. Maintaining legislated state based continuous professional development (CPD) requirements within multiple jurisdictions is unnecessarily onerous and unproductive. Need consistent recognition of professional development activities.
3. There is inconsistent recognition of qualification beyond cadastral surveying to the other forms of surveying and spatial sciences as outlined below.

Engineering Surveyors

Engineering surveying will not be affected by the AMR legislation as it is currently an unregulated profession. This situation of being unregulated has remained unrecognised by governments for decades and provides excessive risk to the consumer and asset owners because they may inadvertently engage a practitioner that is not suitably qualified, or have the expertise

carry out surveys on large or small engineering projects. Given the high value of the assets and that asset owners depend on their asset being built exactly as per the design, and this cannot occur without an engineering surveyor's involvement, this is an area of risk that can be reduced and managed with very little effort by the Australian Government.

SSSI provides certification of Engineering Surveyors on a national basis and significantly updated this system in 2020. The nationally consistent certification or accreditation ensures that current professional standards of engineering surveyors is maintained and that engineering surveyors can move freely between jurisdictions. SSSI would value Australian Government acknowledgment and support through either legislation or regulations to enshrine the national certification/accreditation of engineering surveyors.

Queensland is the only state that has a level of regulation of Engineering Surveying through its Department of Transport and Main Roads.

Mining Surveyors

Due to differing jurisdictional legislation some of the issues listed above for cadastral surveyors are also applicable to mining surveyors. Therefore, it is likely that exemptions for mining surveyors will be applied for in each jurisdiction concurrently with exemptions for cadastral surveyors.

Geodetic Surveyors and Hydrographic Surveyors

These professions are not affected by the proposed AMR legislation.

Spatial Scientists, Photogrammetrists, Remote Sensing or Earth observation Professionals

These professions will not be affected by the AMR legislation and these are also largely unregulated professions. The same arguments apply as listed above under Engineering Surveying for Australian Government support of SSSI national certification of these professions.

Conclusion

In summary, from the surveying and spatial profession perspective, it is the Cadastral Surveyors who will be most affected by the introduction of the AMR of Occupational Registrations legislation due to existing inconsistencies between jurisdictional legislation. This will likely result in each jurisdiction, or their various Surveyors' Boards, to apply for exemptions from this legislation.

SSSI would also like to reinforce the importance of establishing a recognised standard for competency. Government agencies such as Transport and Main Roads in Queensland and Main Roads in Western Australia are leading by example by specifying that engineering surveyors bidding for and delivering on government projects must be eligible for or carry specific accreditation to the standard offered by SSSI.

This requirement should be mandatory and championed by all Government Agencies around Australia.

Appendix A: A summary of types of surveying and spatial science professions and existing jurisdiction legislation

Type of Surveyor	Definition	Existing jurisdiction legislation
Cadastral surveyors	Primary activity is evidence-based boundary determination of public or private land and the registration of those lands with the appropriate authorities. This can be for the purpose of land subdivision or amalgamation, existing boundary determination for construction or to facilitate the transfer of title. The products of a boundary determination can be plans, certificates or digital data, together with physical survey markers placed in the ground.	<ul style="list-style-type: none"> • Due to the legal framework of Australia’s land titling system that all state and territory jurisdictions operate under, and the importance of land tenure as a foundation to the nation’s economy, each jurisdiction in Australia has its own legislation to govern the activities of cadastral surveyors • Cadastral surveyors must be registered or licenced under the relevant legislation in the jurisdiction where they practice and required to maintain their expertise through continuous professional development in most Australian jurisdictions • Cadastral Surveyors at times work with Geodetic Surveyors to determine national and international boundaries which can carry substantial economic and political implications. • In most jurisdictions mine tenements must be established by a licenced or registered cadastral surveyor with a mine tenement endorsement
Engineering Surveyors	Use their measurement skills to ensure that built structures such as roads, railways, bridges, multi-level buildings, sports stadia and dams etc, are built as per their design specification and located where they are intended to be. Engineering surveyors are also engaged to monitor the movement of built structures to very fine tolerances to ensure the stability and safety of built structures.	<ul style="list-style-type: none"> • Engineering surveyors are not covered by any local jurisdictional legislation and can therefore move freely between Australian jurisdictions. • SSSI provides certification of Engineering Surveyors on a national basis and significantly updated this system in 2020. • this national certification of engineering surveyors has yet to become accepted in all jurisdictions
Mining Surveyors	Have a lot in common with the engineering surveyor, and are involved with predominantly civil works that occurs on mine sites. This includes the ongoing control of the location of new pits and tunnels, volume determination of pits and mounds, monitoring of the movement of tunnels for mine safety and sometimes the set-out of built structures within the mine site.	<ul style="list-style-type: none"> • Mine surveyors are registered or certified under different legalisation in most Australian jurisdictions and there are variances between jurisdictions

Type of Surveyor	Definition	Existing jurisdiction legislation
Geodetic Surveyors	<p>Also referred to as geodesists, are experts in the science of the determination of the size and shape of the earth and the measurement of all data needed to define the size, position, shape and contour of any part of the earth and monitoring any change therein. This includes:</p> <ul style="list-style-type: none"> • the positioning of objects in space and time as well as the positioning and monitoring of physical features, structures and engineering works on, above or below the surface of the earth. • the development, testing and calibration of sensors, instruments and systems for the above-mentioned purposes and for other surveying purposes. 	<ul style="list-style-type: none"> • Geodesists are educated to at least the level of a Bachelor’s degree, though most have a Masters or PhD in the science of Geodesy. • While the education is of a similar standard at all of the tertiary institutions, there is currently no regulation or local jurisdiction legislation for geodesists, and there are no impediments for geodetic surveyors to move and work between Australian jurisdictions.
Hydrographic Surveyors	<p>Also referred to as hydrographers, are experts in the science of measurement and description of features which affect maritime navigation, marine construction, dredging, offshore oil exploration/offshore oil drilling and related activities. Strong emphasis is placed on soundings, shorelines, tides, currents, seabed and submerged obstructions that relate to the previously mentioned activities.</p>	<ul style="list-style-type: none"> • The Australian Hydrographic Office, which sits within the Royal Australian Navy is the national authority on hydrographic matters and is responsible for delivering hydrographic services to meet the demands of the maritime community in line with national and international standards. • There are two levels of specialist certification in Hydrography – Level 1 (CPHS1) and Level 2 • (CPHS2). CPHS1 is the highest attainable achievement for a Hydrographic Surveyor. • The Australasian Hydrographic Surveyors Certification Panel (AHSCP) was established by SSSI in 1994, and remains chaired by the Hydrographer of Australia (RAN). • Hydrography certification is done to the same standard in a small number of centres around the world. Therefore hydrographic surveyors can move freely between both Australian jurisdictions and most countries.

Appendix B: A summary of types of spatial professions and governing jurisdiction legislation

Type of Spatial Professional	Definition	Existing jurisdiction legislation
Spatial Scientists	<p>Spatial scientists were once known as cartographers but their role has changed considerably as technology has advanced. Spatial scientists oversee the design, establishment and administration of geographic information systems (GIS) and the collection, storage, analysis, management, display and dissemination of data. They also undertake the analysis, interpretation and integration of spatial objects and phenomena in GIS, including the visualisation and communication of such data in maps, models and mobile digital devices. Spatial scientists undertake the study of the natural and social environment, the measurement of land and marine resources and the use of such data in the planning of development in urban, rural and regional areas.</p>	<ul style="list-style-type: none"> • There is no jurisdictional legislation determining how spatial scientists may practice • SSSI provides a nationally recognised certification known as GISP-AP (GIS Professional – Asia Pacific) which is based on the standard in operation in North America. • There are no impediments to Spatial Scientists moving and working between the various Australian jurisdictions
Photogrammetrists Remote Sensing Earth observation	<p>Modern remote sensing and photogrammetry began with the invention of the camera more than 150 years ago, and it was used for early topographic surveys and close range applications, and for aerial surveys after the invention of the airplane in the first decade of the 20th century. Photogrammetry is the science and art of determining the geometric properties of objects from images recorded from aircraft, satellites or at close range. Photogrammetry is used extensively for such applications as topographic mapping, measurements of terrain form, and close range measurements of objects, such as for engineering, architecture, archaeology, medicine, law, machine vision. Modern photogrammetry also includes airborne and terrestrial based lidar (light detection and ranging) based on the principle of laser scanning. Remote sensing and Earth Observation professionals require a deep understanding of photogrammetry when analysing and interpreting remotely sensed data.</p>	<ul style="list-style-type: none"> • There is no jurisdictional legislation determining how remote sensing and Earth Observation Professionals operate. • SSSI is working on a national certification program for this profession. • There are no impediments to Photogrammetry, remote sensing and earth observation professionals moving and working between the various Australian jurisdictions