



SEASC 2019 Darwin Declaration

Collaboration, Communication and Capacity Building

15-18 August 2019 – Darwin, Australia

The South East Asia Survey Congress 2019 – Darwin hosts, organisers and participants -

Reaffirmed that survey and geospatial information is the “primary currency of the 21st century” and can support a nation’s economy through the provision of spatial analytics on trade, investment and integration of markets.

Reaffirmed that survey and geospatial information can support the monitoring and measurement of the United Nations Sustainable Development Goals.

Reaffirmed the United Nation Global Geospatial Information Management concept of “where is it?” is integral to decision making and the “why, what and how”. That is – ‘the why of where’ or ‘where do events happen’ or ‘where do people live’ or ‘where is my property’ or ‘where to build my infrastructure’ or ‘where to invest’.

Reaffirmed the important role of surveying and geospatial agencies and their professionals in providing reliable, and accurate geospatial information and advice for evidence based decision making to overcome the technical, social and economic challenges of today.

Reaffirmed that a harmonious, diverse, and educated surveying and geospatial community with an inclusive and collaborative attitude is central to social stability, and sustainable economic development in Asia Pacific.

Reaffirmed the significance of accurate, sustainable and accessible surveying and geospatial information, infrastructure and systems; policies, standards and guidelines; education,

training and capacity building; appropriate governance; and outreach and communication to support science and society.

Reaffirmed that as our young professionals are the key to our future, more active and genuine engagement with young professionals to implement succession planning pathways is a necessity.

Acknowledged the crucial role and the function of the Surveying Spatial Sciences Institute, ASEAN Federation of Land Surveying And Geomatics (FLAG), Surveying and Spatial New Zealand, and the Pacific Geospatial and Surveying Council (PGSC) as the principal *national or regional* representative bodies of geospatial and surveying professionals in Asia Pacific.

Recognised and respected that although countries and organisations represent different cultures or members, and a range of ideals or objectives, there are common challenges which need to be addressed in a unified and collaborative manner.

Recognised that a nation's "foundation or fundamental spatial datasets" underpin activity and solutions to surveying and geospatial challenges in the traditional and non-traditional geospatial information sectors of government and the commercial industry.

Recognised surveying and geospatial organisations must have an enterprise integrated geospatial information system so that it "can accommodate a large number of users who can manage, exchange / share, and use spatial data and related information to address a variety of needs, including data creation, modification, visualization, analysis, and dissemination"

Recognised that security of land tenure is underpinned by quality Land Administration, Management and Governance systems, standards and practices, a modernised cadastral (land tenure and boundary) system, and geospatial reference system, such as a positioning or geodetic framework.

Recognised the important role of satellite technology, communications, and GNSS CORS infrastructure to deliver a quality modernised geospatial reference system.

Recognised surveying and geospatial professionals need to utilise contemporary tools and applications to effectively work in a modern economy and rapidly changing environment.

Recognised that "fit for purpose" concepts, techniques and solutions must be scalable, upgradable, easily integrated and interoperable to cater for digitisation, web / cloud based systems, artificial intelligence, and automation of work flows.

Recognised that the culture of the surveying and geospatial industry to embrace and implement new technological advancements will move more rapidly with greater co-operation and sharing of experience, wisdom and "alternative ways of thinking", between young professionals and their peers.

Recognised that the ongoing development of surveying and geospatial capabilities of professionals and sharing of knowledge and experiences are key enablers - to manage digital disruption and change; of innovative integrated systems for smart cities; for better disaster risk mitigation, organisation and response; and to maximise the benefits and efficiencies from technological advancements.

Recommends that delegates and supporters of the Congress, as well as the broader surveying and geospatial profession and community -

- a) Advocate, promote and communicate the profile, value, importance, benefits (including economic and social) and opportunities of the surveying and geospatial profession to government, decision makers, industry and the wider community. Furthermore, that such activity should be through various methods including digital and social media, active participation at various related events, forums, and outreach initiatives.
- b) Continue to develop, promote and actively participate in the provision of a high integrity geospatial reference system that will support – regional reference frames; an accurate geodetic datum; cadastral modernisation; unification of height systems; measurement of Earth dynamics; integration and interoperability of fundamental datasets; monitoring of sea level change; management of natural phenomena such as tsunamis, earthquakes, storm and flooding events, fire and volcanic activity; and the delivery of quality positioning services to government, industry and the community.
- c) Promote and support the innovative techniques, performance and application of unmanned autonomous vehicles (drones) and remote sensing to - collect information in non-accessible or hazardous locations; stream line data collection, realise efficiencies, and increase production; integrate data with traditional mapping methods; manage the environment; and to assess the impacts of disasters.
- d) Identify and develop the relevant capabilities to ensure the profession has an integral technical and administrative role in the “built and constructed environment (includes subsurface activities)”; in particular the delivery of an integrated “digital twin” from concept to operations and maintenance.
- e) Examine the technical, administrative, management and governance mechanisms and requirements to ensure all rights, responsibilities and restrictions are registered in an integrated geospatial information system. This would include, but not limited to, a unified approach to - a 3 dimensional tenure and boundary system and spatial database (with a temporal component), the provision and supply of

the digital data, the implementation roles and responsibilities of stakeholders in the information cycle, standards and practices, and capability needs.

- f) Develop capacity building frameworks and activities that -
- enhance technical, and administrative (including “soft”) skills in various disciplines;
 - provide a better understanding of copyright and intellectual property;
 - highlight principles and benefits of sharing information, such as being available to exchange current, authoritative, accessible, usable and interoperable data;
 - assist with developing or modernising relevant legislation (acts and regulations); policies, standards and practices;
 - provide the abilities and aptitude to manage change;
 - support the development of strategic, implementation and communication plans to deliver capacity development
 - deliver opportunities for young professionals to be mentored, receive guidance, and share experiences with their peers
- g) Engage in multilateral collaboration to review, evaluate and modernise institutional arrangements that –
- allow greater mobility of professional services and skilled labour;
 - recognition of qualifications;
 - provide opportunities to develop and exchange technical knowledge through internships, short term attachment programs and mentoring;
 - encourage the academic community, industry, professional organisations, and statutory bodies to identify, and develop curriculum for the core competencies required for the various disciplines;
 - create sustainable mechanisms and resourcing to deliver capacity building, certification, training or workshops for government and commercial or private sector community;
 - increase engagement and interaction with non-traditional industry sectors;
 - encourage and assist greater workforce diversity and inclusion - cultural, gender and age;
 - facilitate succession planning and visible career pathways for young professionals and those entering into the industry.
- h) Encourage and support attendance and active involvement at the international, regional, national and local events, forums, workshops and meetings.

- i) Continue to promote and support the importance of ongoing professional development, and furthermore recognise excellence in our industry.
- j) Establish and maintain a body of knowledge database or system, and contribute information to allow sharing of experiences, documents, presentations, papers, articles, business cases, organisational plans, strategies etc. regarding surveying and geospatial development in Asia and the Pacific.
- k) Continue close collaboration with the International Federation of Surveyors (FIG); the UN-GGIM Asia Pacific; International Society of Photogrammetry and Remote Sensing; and other relevant likeminded international, regional and national organisations to overcome surveying and geospatial challenges.
- l) Create opportunities that enable “local” likeminded organisations to –
 - unify and cooperate;
 - build trust;
 - actively support and maintain the heritage of our surveying and geospatial industry
 - dismantle “silos” and set aside political differences;
 - collectively promote our profession;
 - build a stronger future, and to
 - work on issues and prospects of common value, and benefit.