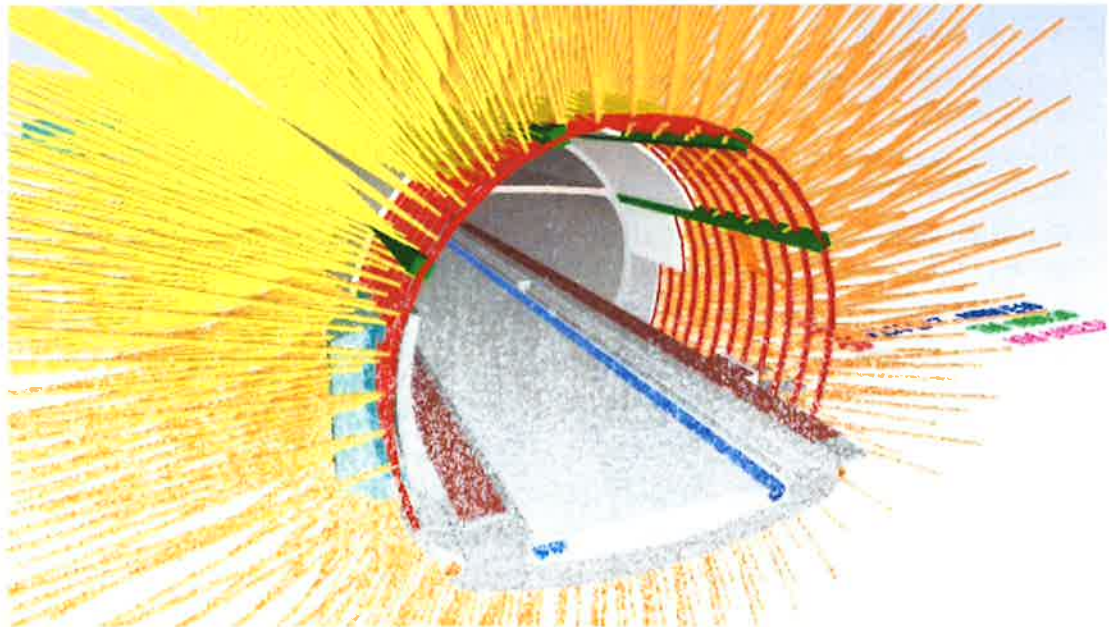




MEMORANDUM OF UNDERSTANDING

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Memorandum of Understanding

1. Introduction

The increasing use of BIM in major projects worldwide and the mandatory use of BIM in public-funded projects in certain countries indicates that model-based civil engineering is here to stay. However, whilst information modelling systems can help deliver quality engineering to owners and contractors, the process requires specific skills, tools and robust procedures. If the tunnelling community is to make the most of what BIM can offer, it is of paramount importance to share experiences and to implement standards and guidelines, which are driven by the industry itself. While BIM approaches have been fairly detailed for the vertical building industry, the horizontal construction industry, (including the tunnelling industry) has so far passively endured this evolution, taking no active part in influencing the regulation process.

2. buildingSMART Australasia (bSA)

buildingSMART Australasia (bSA) is the body tasked with driving the uptake of Building information Modelling (BIM). bSA's mission is to work with key industry and government leaders to develop, maintain and facilitate the use of open BIM standards, collaborative processes and integrated practices. bSA is committed to ensuring the improved exchange of information between software applications used in the construction and infrastructure industries in Australia and New Zealand. The BIM and digital engineering Infrastructure Working Group will be the key conduit that is involved in the outcomes ensuing from this MOU. This WG includes Transport NSW, CIMIC, GHD, JHG, Aurecon, SMEC and others, which has the charter to:

- Engage with the infrastructure industry to improve the application of Digital Engineering.
- Provide feedback on key standard developments on how they interact with the Australasian Market.
- Establish an independent, neutral forum with a diverse range of participants focused on the improvement of the Digital Engineering practices.
- Improvement in information exchange through advocacy of open standards.
- Provide a compliance framework for checking the integrity of standards.
- Improve competency in implementing Digital Engineering practice.
- Local voice for the Infrastructure efforts of buildingSMART International.
- Consistent way of framing Digital Engineering in the Australasian Market.
- Monitor similar groups information and integrate as required.
- Provide a forum of technical experts who can help solve issues.

3. Australasian Tunnelling Society (ATS)

The Australasian Tunnelling Society (ATS) is a member-based not-for-profit public and private industry council. The Australasian Tunnelling Society is a Technical Society of Engineers Australia (EA), and is a member of the International Tunnelling Association (ITA). The Australasian Tunnelling Society (ATS) aims to:

- Advance the knowledge of the Australasian Tunnelling Industry through areas of design, construction and utilisation of underground space, including technical aspects, health and safety, and ecologically sustainable development;
- Stimulating a better understanding of the underground domain by governments, planners and the community;
- Promoting and reviewing research and development of subsurface projects;
- Maintaining affiliation with the International Tunnelling Association (ITA) through active membership, including participation on ITA Working Groups;
- Communicating and linking with other local and international like associations concerned with the application, planning and practice of subsurface development and utilisation, and;
- Reviewing the adequacy of education and training of technologists associated with the science, engineering and practice of subsurface development.

4. Memorandum of Understanding

1. The parties are both active in promoting the shared interests between both parties.
2. The parties believe that mutual benefit can be derived from increased cooperation, information exchange and promotion between bSA and ATS on matters of common interest.
3. The parties wish to record their willingness to cooperate and communicate, with a view to:
 - a) realising opportunities for synergies when interests align;
 - b) maximising the benefits at the national and international level from our individual activities; and
 - c) ensuring coordination of activities and avoiding duplication of effort.
4. All reasonable efforts will be made to ensure access to enable an open and efficient dialogue between bSA and ATS. Both parties will respect confidentiality in discussions, and not take advantage of knowledge of the other's position. Where matters are not agreed upon, each organisation will respect the right of the other to maintain its views, and in doing so will not prejudice the cooperation which may continue more broadly.
5. The terms of specific areas of cooperation shall be further considered and agreed upon in writing by the parties prior to the initiation of any particular activity.
6. The parties agree that this Memorandum of Understanding is not a formal legal agreement giving rise to any legal relationship, rights, duties or consequences, but it

is only a definite expression and record of the purpose of the parties to which the parties are bound in honour only.

A handwritten signature in blue ink, appearing to read "D Mitchell", written over a horizontal line.

Signature

David Mitchell

buildingSMART

A handwritten signature in black ink, appearing to read "H Asche", written over a horizontal line.

Signature

Dr Harry Asche

Australasian Tunnelling Society