

# BIM, **Legal &** Procurement

*L1 BIM & Intellectual Property*



**BIM IN PRACTICE**



Australian  
Institute of  
Architects

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## L1 BIM & Intellectual Property

### Contributors:

Peter Scuderi (Chair), Arup

Richard Barton, Australian Institute of Architects

Sam Bassilious, Rider Levett Bucknall

Warren Birchall, HASSELL

Chris Canham, Lend Lease

Andrew Chew, Corrs Chambers Westgarth

Fergus Hohnen, Woods Bagot

Kiri Parr, Arup

Wendy Poulton, Planned Professional Risk  
Services

Philippa Sutton, Laing O'Rourke

Claudelle Taylor, Leightons / Nexus Point  
Solutions

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## INTRODUCTION

This guidance note refers to the intellectual property (IP) of content in BIM. It discusses who should own it, how IP in models can be regulated, and different ways of working from traditional business as usual. Ownership of IP can relate to many things including the embedded data in the model/s, workflow processes used in the collaboration processes, technology developed or the design intent.

## WHO SHOULD OWN CONTENT IN BIM?

There are three alternatives to ownership:

1. The end user/owner
2. Each contributor retains rights over their contribution to the shared model (refer to the approach endorsed by the American Institute of Architects E2O2 Document)
3. Third party (eg, contractor, facilities management organisation) assumes ownership of a completed model

The following points/issues are worth noting in relation to IP ownership

- IP should be defined in the Professional Services Agreement and the BIM Management Plan (also: Project BIM Plan or Project Execution Plan), roles and responsibilities, liabilities, Intellectual Property and moral rights should be clearly expressed.
- There is often a disagreement between the parties relating to data that is not maintained, and who is in the best position to maintain it (eg, the creator, or end user)?
- How the model is used in the long term is a key question. What are the authorised uses of a model? Is the model issued on a license basis for a period of time, or for a particular use, with the original authors retaining IP?
- There is a line of thinking that IP such as 'Smart Objects' created by the design consultant to describe the project, should remain the property of the author. This is to protect the authors from having competitors (such as other consultants) use their 'Smart Objects'. Downstream model users have little interest in the smart objects. The requirement of the contractors differs from the designers. The contractors will be swapping out consultants design objects and substituting manufacturers' models and they intend to create generic designers' objects that are swap-compatible with manufacturer-specific object models.
- Alternatively to this view, there are some who promote the sharing of content in order to produce an open library of objects. In time the need for consultant-developed libraries will diminish.
- When working on an aggregated model, it is particularly important to seek the advice of specialist intellectual property advisors as attributing copyright is complicated where models are built jointly by several parties.

## HOW CAN IP ON MODELS BE REGULATED?

Forms of agreement are used to regulate the IP by licensing of data. Although BIM provides a greater level of data richness the IP issues are similar to those for 2D and so provided that ownership, liabilities etc, are clearly articulated in the Professional Services Agreement, adequate coverage should be provided to protect the author. It is important to be clear in the agreements to allocate the rights for such things as reproduction, use, access, distribution for particular purposes such as operations or disputes.

The data formats of models provide different levels of IP protection for the authors. For example:

1. Read-only formats like Autodesk Navisworks, dwf, Solibri model checker
  - allow data extraction, but not modification of data
  - minimal loss of IP for creators
2. Editable, open-standards based formats like buildingSMART developed open standard known as Industry Foundation Classes (IFC)
  - capable of incorporation into a wide variety of systems
  - makes data accessible
3. Native file formats such as Autodesk Revit™, Graphisoft Archicad™, Tekla™
  - greatest loss of IP for creators
  - relies on end-user having access to original authoring software

Note that using IFC as a means of sharing data amongst the design consultants allows for the protection of each individual's data. Sharing models using read-only formats (described above) offers a way to share data whilst protecting your inputs.

The key question is: what IP are you seeking to protect? The IP created for the project, which is unique to the project, or the IP you have used to automate your design production?

BIM authors need to look beyond the design phase. Within the design phase there is a sharing of models for a number of reasons. One reason is co-ordination, but another is where one party undertakes work using the other's models – eg, an engineer runs an energy simulation using the architect's model of the building.

Then the BIM is passed to the construction team. Manufacturers' objects are substituted for design objects, and constructability objects are inserted for detailed installation and fabrication. The design data contained in the original model will be swapped for as-built and commissioning data. Consequently, little of the original IP is still intact. There will be two models – the designer's model and the contractor's as-built model.

The contractor's as-built model then gets taken over by the Facilities Management (FM) party, who maintains the data to reflect various changes made on site. Alternatively the client may ask for a specific FM model that contains data specific to the operations of the building.

Which model will the designers use to detail their design changes and issue an instruction? Currently the designer will not issue a modified design drawing based on a shop drawing.

## IS IT ANY DIFFERENT TO THE TRADITIONAL WAYS IN WHICH WE WORK?

Using an integrated BIM is not different to traditional 2D environments. It is however more collaborative. The Level of Detail (LOD) is more data rich and assuming the author clearly defines what the purpose for the model is and its suitability then little has changed.

Arguably handing over a model conveys considerably more information than would traditionally have been the case with paper drawings, and considerably more than 2D digital drawings. To a client or supply chain user, the extra information conveyed (eg, cost, performance and other attributes) is invaluable. For a competitor obtaining a copy of a native format model, there is the distinct possibility that they may be able to derive methods, know-how or copy model content, with little chance of preventing this. So if IP is an issue then it is not advisable to hand over a native format file.

Looking at a different perspective, while handing over a digital model provides a wider range of opportunities for re-use, it also increases the risk that information may be used for purposes that were never intended. Sharing models using read-only formats limits the potential of the information being misused for other unrelated projects without the permission of the author.

Other issues which may need considering depending on the circumstances include the potential for joint authorship in a copyright context and reviewing requirements for software licensing.

## CONCLUSIONS

The issues of intellectual property ownership in BIM projects stem from how well they are dealt with in the Professional Services Agreement. Clarity is required around roles and responsibilities about who enters what data at what time and who is then responsible for its maintenance. It is also necessary to articulate what the model will be used for – design, construction, operations etc. The ownership of the models is then being placed with the ultimate users. For example, if it is a combined model, the ownership should rest with the owner or user of the building.

Forms of agreement are used to regulate the IP by licensing of data. Although BIM provides a greater level of data richness the IP issues are similar to those for 2D. It is important to be clear in the agreements to allocate the rights for such things as to reproduce, use, access, distribute for particular purposes such as operations or disputes. Data formats used to develop models provide different levels of IP protection. Read-only and open standards provide less IP leakage compared to native formats.

While handing over a digital model provides a wider range of opportunities for re-use, it also increases the risk that information may be used for purposes that were never intended. Sharing a copy of a native format model provides the possibility that another user may derive methods, know-how or copy model content. As there is little chance of preventing this it is not advisable to hand over a native format file if IP is an issue.

### Summary

- Ownership of IP can relate to many things including the embedded data in the model/s, workflow processes used in the collaboration processes, technology developed or the design intent.
- Who should own IP – the creator or the end user?
- What the model's going to be used for has an impact on ownership.
- How IP in models can be regulated through Professional Service Agreements and through model file formats.
- Is working with BIM different from traditional business as usual?