



Tangram Architects

Making Life Simpler



We can help
you negotiate
the BIM word
maze and
explode
some of
the myths
surrounding
BIM working



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2d CAD Is Dead....Or Is It?

2d CAD techniques remain an important part of the BIM process, from 2d draughting of junction details through to the 2d output of drawings and schedules.

It's Not All About The Software....Or Is It ?

There are three key software houses battling it out for market share in Autodesk, Microstation and Graphisoft, but BIM is not all about the software.... or is it?

3d BIM Models Are All About The Visuals.... Or Are They?

3d modelling techniques provide a range of benefits for the client, and include a fringe benefit of being able to quickly produce 3d visualisations.

What Is 4d and 5d BIM?

Production of schedules, automatic take off and project programming with live Gantt charts linked to the model are all possible in BIM working.

What Is 6d and 7d BIM?

From the client's point of view the BIM model is at it's most effective post completion as it can be used as a 3d O&M resource.

Ways Of Working With Us....Can We Be of Help?

We are architects with strong BIM credentials. Other than traditional procurement, you can work with us through Instant Access Frameworks and Partnering arrangements.

Services For Clients

1

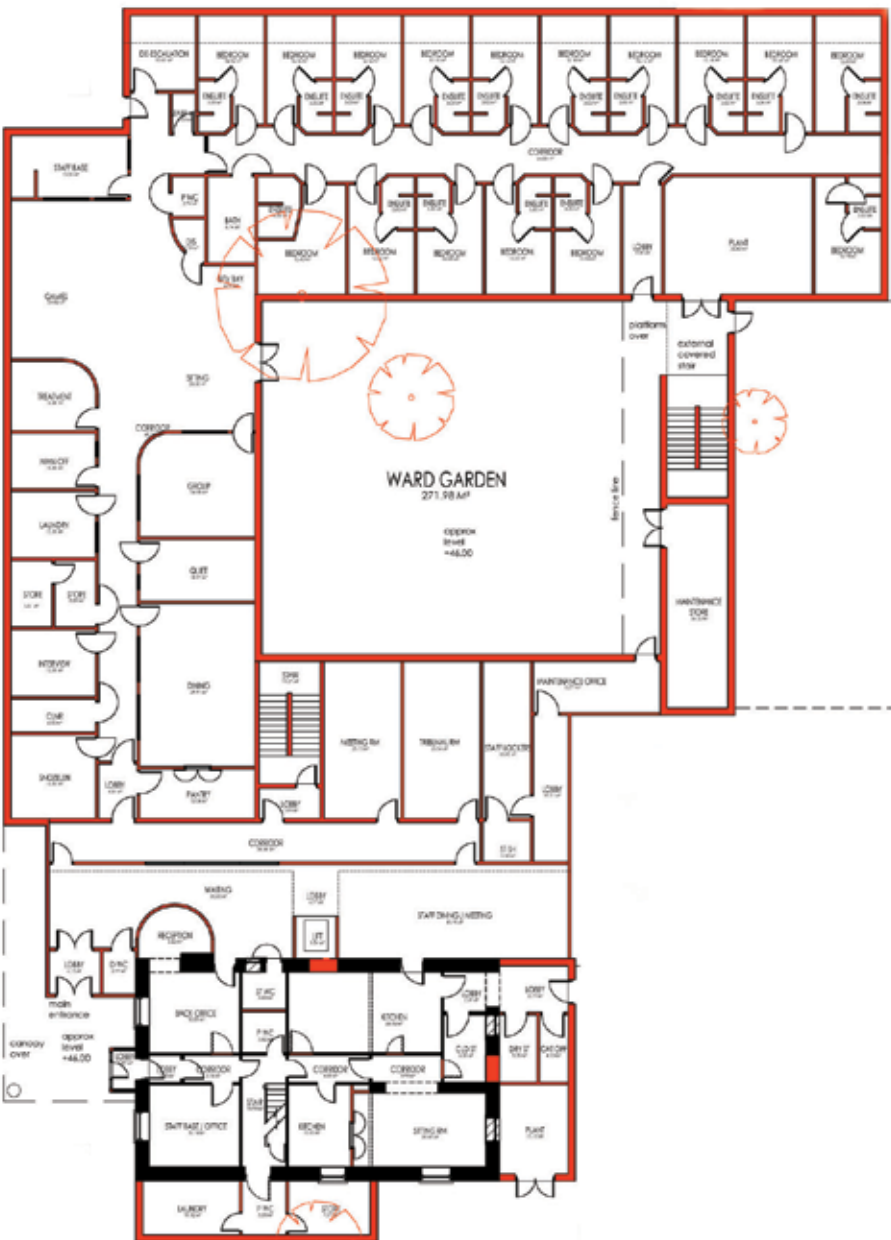
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2d CAD Is Dead.... Or Is It?

1

2d CAD techniques remain an important part of the BIM process, from 2d draughting of junction details through to the 2d output of drawings and schedules.

We run both Autodesk Autocad Architecture (DWG file based) as well as Revit Architecture (RVT file based). The former is used to manipulate and link legacy CAD files into the BIM model.

BIM working revolves around 3d modelling, however 2d CAD techniques continue to play an important role in BIM driven projects.

In some cases this means that the 3d model is being translated into a 2d format, for information such as plans, elevations, sections and schedules.

In other instances it will have been drawn in 2d either directly in the BIM model file or in an external software package and linked to the BIM model file, for information such as junction details.



What you need to know?

- ***2d working and output continue to play an important role in projects.***
- ***We understand how to integrate 2d working methods and co-ordinate and manage within the 3d BIM process.***

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It's Not All About The Software...Or Is It?

2

There are three key software giants battling it out for market share in Autodesk, Bentley and Graphisoft, but BIM is not all about the software... or is it?

We have been working in 3d for over 15 years, using software such as Sketchup and Autodesk Autocad Architecture, both of which Tangram still use today.

The Autodesk Autocad Architecture software is BIM compatible, and was used on some of the early BIM test projects such as the Barts and London Hospital project and remains widely used in the US.

Today Tangram's primary BIM software application is Autodesk Revit Architecture, aligned with Autodesk Navisworks, ADB and Cobie / Uniclass Addin Software.

IFC (Industry Foundation Class) was developed by the International Alliance of Interoperability (IAI) and looks to provide an interoperable solution between different software applications. We have found that using information transferred from other BIM software applications is not always 100% reliable.

It may be for this reason that BIM teams often work with a shared software platform or model viewing software such as Autodesk Navisworks or VICO is employed.



What you need to know?

- ***The transfer of information between software platforms is not straightforward.***
- ***BIM working can be improved when the team share a common software platform.***
- ***We subscribe to one of the most popular BIM software suites on the market today.***

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3d Models Are All About The Visuals.... Or Are They?

3

3d modelling techniques provide a range of benefits for the client, and include a fringe benefit of being able to produce 3d visualisations.

The BIM process enables the creation of some stunning 3d visuals, as well as allowing 2d plans, sections and elevations to be cut directly from the model.

However the real power of BIM is the 'I' in BIM. Information applied to intelligent modelling components.

An example of the 'I' in BIM, is when we work with ADB (Activity Database) software, developed for the NHS. The software enables a link between our BIM software & the database, allowing intelligent modelling components to be loaded into our BIM models directly from the database.

It is the 'I' in BIM which provides the key to the growing popularity of BIM processes.

When you model in a BIM enabled software package you are working with intelligent components to which information can be applied. It is the ability to use and then re-use this information in 3rd party software applications, which provides endless possibilities.

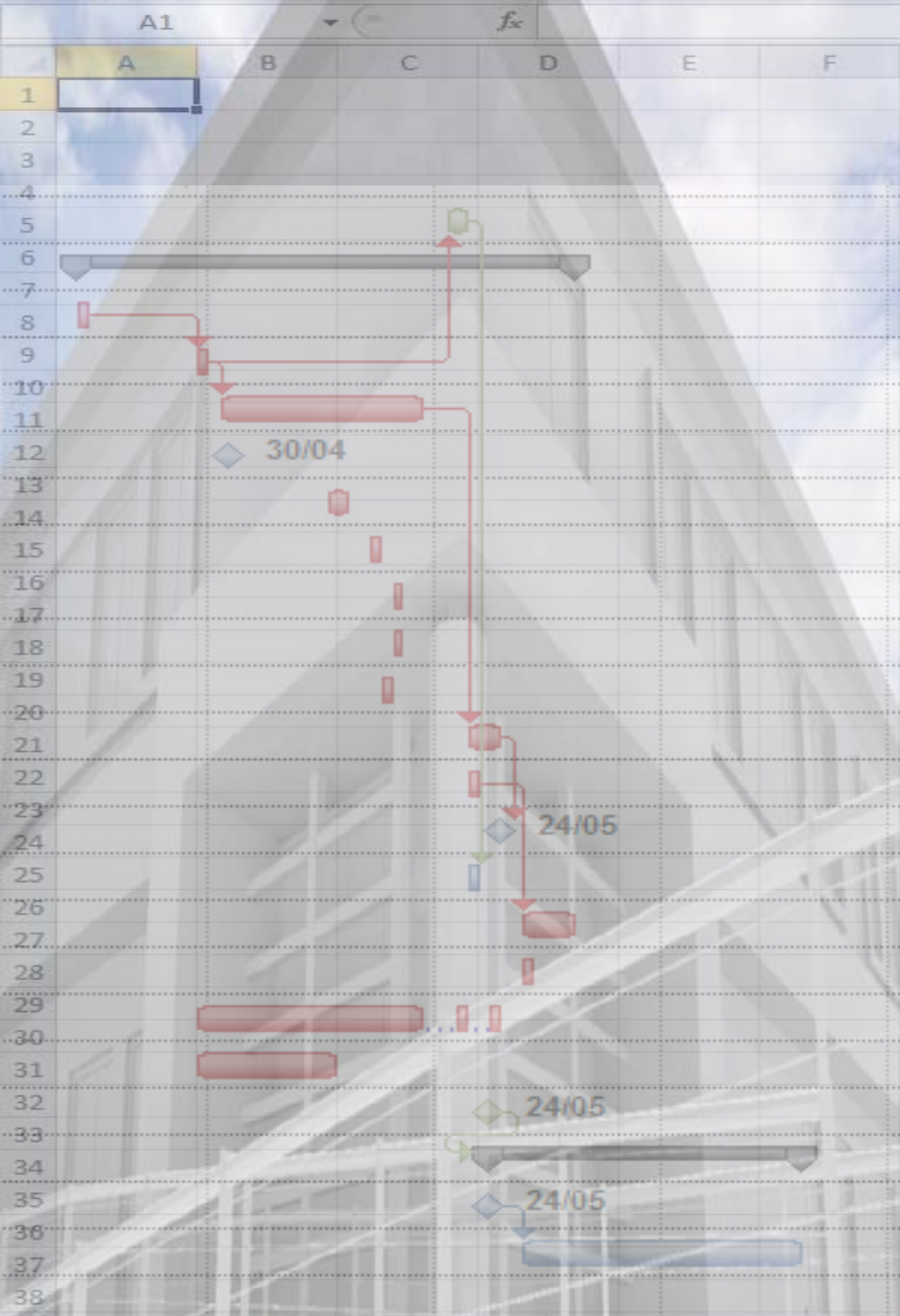
For instance exporting the Revit model in gbXML format will allow it to be imported into thermal analysis software such as IES or TAS..



What you need to know?

- We can create 3d visuals easily for client presentations including room layouts linked to ADB.
- We can export the BIM model into Autodesk Navisworks, import 3rd party models and apply clash detection.

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What Is 4d And 5d BIM?

Project programming with live Gantt charts linked to the model, the production of schedules and automatic take off are all possible in BIM working.

Having applied information to the BIM model we can automatically take off COBIE compliant schedules for components such as windows and doors in Autodesk Revit Architecture.

Importantly other consultants can re-use this information to provide the client with automatic takeoff of quantities and apply cost data or connect the intelligent components within the BIM model to a Gantt driven programme, with peace of mind that the data, being from a single source, will be fully co-ordinated.

Collaboration with like-minded consultants used to be difficult to foster and any benefits from working with our BIM enabled software were focused internally, within Tangram. Times are changing and we now have a supply chain of consultants who share our *enthusiasm* for the benefits that BIM can bring to all.

An evolution of 3d working is 4d (Time) and 5d (Cost) working, which allow the export of the BIM model into software applications such as VICO, to enable project programming and automatic takeoff using information taken directly from the BIM model.



What you need to know?

- ***Our working Revit BIM models are easily exported at data drop intervals, with embedded information ready for re-use in 3rd party applications.***



Design

Construct

Operate

Reconstruct



What Is 6d and 7d BIM?

5

From the client's point of view the BIM model is at it's most effective post completion as it can be used as a 3d O&M resource.

Soft Landings is very important in any project and handing over a 3d digital O&M file at the end of a project may intimidate some clients.

Buildings evolve over time and are renovated and extended. Keeping the 3d digital model up to date is a service that we can offer as you grow into your premises and the building changes.

6d BIM is the use of the model post completion by estates departments for FM. The BIM model can be used as a live O&M manual. CAFM is a popular software application for FM management, linking 2d CAD. Now software applications such as VICO allow client's access to the information embedded in 3d BIM models.

7d BIM completes the life cycle of the building, where the building owner can investigate and plan demolition, through reverse engineering the BIM process.



What you need to know?

- We offer a service to help you maintain your Autodesk Revit Architecture BIM models.***
- We can extend this service to your archive stock, which will allow you to maintain consistency in how you manage your asset.***

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Ways of Working With Us.... Can We Be Of Help?

6

We are architects with strong BIM credentials. Other than traditional procurement, you can work with us through Instant Access Frameworks and Partnering arrangements.

You can work with us in any of the following ways:

- **One Stop**
- **Instant Access Frameworks**
- **Procure 22 Framework.**

Our one stop approach gives focus to the design team and provides the client with a single point of contract for all issues.

We are a consultant on the NHS SBS and LPP frameworks. These OJEU tendered frameworks allow *immediate appointment*. These may be of short duration, feasibility work through to long duration and complex builds.

Tangram are part of the supply chain for services on the NHS P22 framework in England & Wales. NHS bodies can select Tangram Architects aligned with 1 of 6 PSCP's..



What are the Plus Points?

- ***We offer you flexibility in the selection of a design procurement route, so that we can be your number one choice.***

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Services For Clients

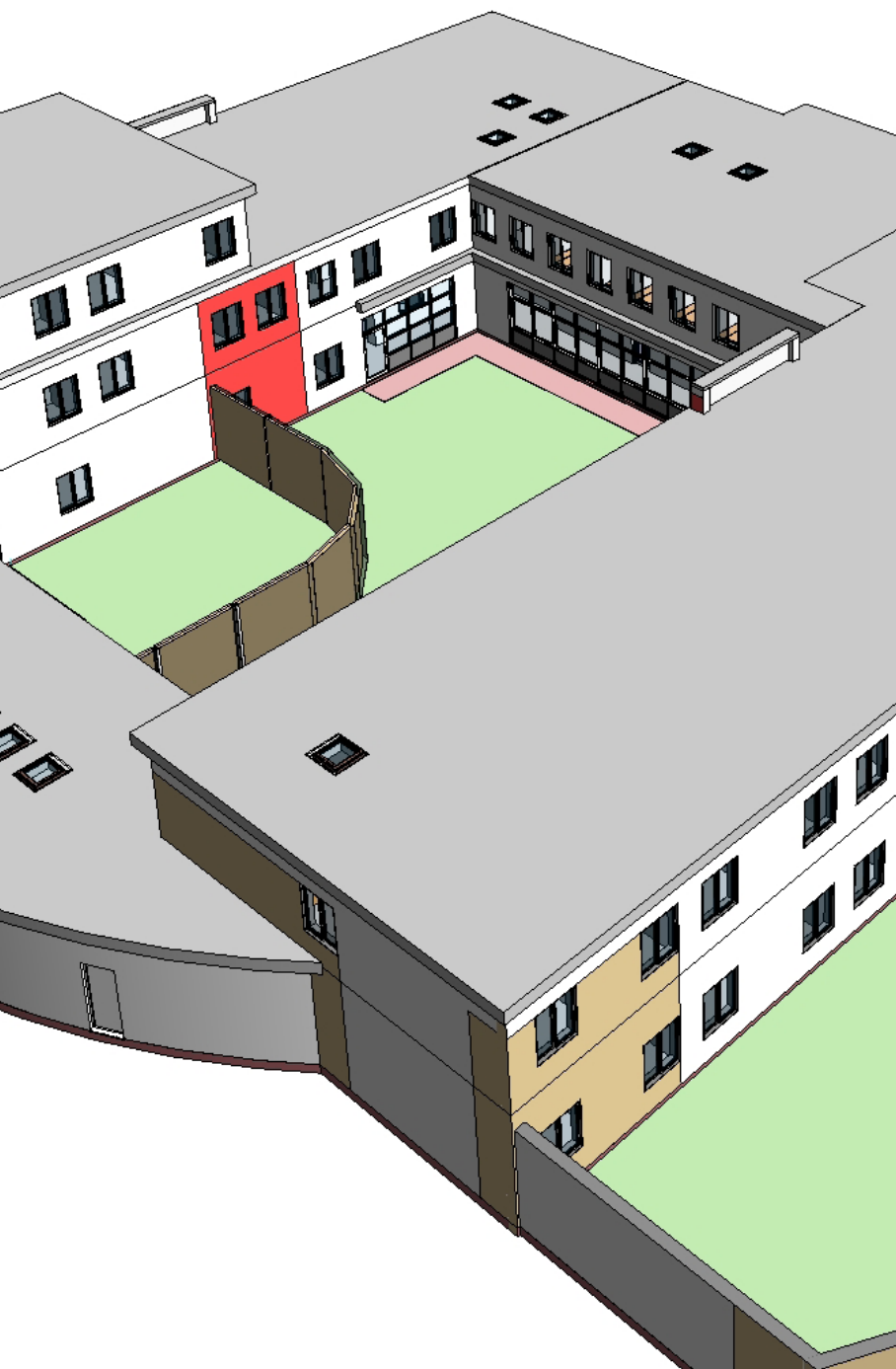
Tangram has an extensive track record over 30 years of all aspects of healthcare development and the principal areas of our experience are:

Project Types

- Refurbishment and upgrading of complex patient areas, without service disruption
- Extensions and new build
- Major buildings including laboratories, community hospitals and mental health
- Acute care
- Tertiary Care
- Primary and community care
- Mental health and learning disabilities
- Teaching facilities
- Laboratories

Consultancy

- Site and premises assessments – 6 facets and analysis
- Reconfiguration and evolution modelling
- Alternative site and use analysis including planning local environments
- Business case development
- Sustainability and life-cycle design
- Design Quality evaluation and reports
- Procurement advice including Technical Advisory support





Services For Clients

Tangram has developed a reputation for skill and consistency. Our objective is to achieve excellence by working closely with clients and colleagues from start to finish. Every project is individual and an important challenge for us.

Support and systems

- Revit Architecture with full BIM capacity, COBIE and 3d rendering capability
- Activity Data Base
- Navisworks Manage
- Autocad Architecture

Services

- Stakeholder liaison
- Briefing development
- Options appraisals
- Workshops and strategy – decisions and workstreams
- Design options and sketch designs – presented in 3D for ease of description
- Final design presentations
- Room Data Sheets and full room loading on drawings
- Fly-throughs and full 3D models
- Production information
- Tender and contractor appointment
- Site and construction support
- Commissioning and handover
- Defects management and Post occupancy evaluations

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