SIMPLIFYING DELIVERY
IN THE BUILT
ENVIRONMENT

OAKWOOD

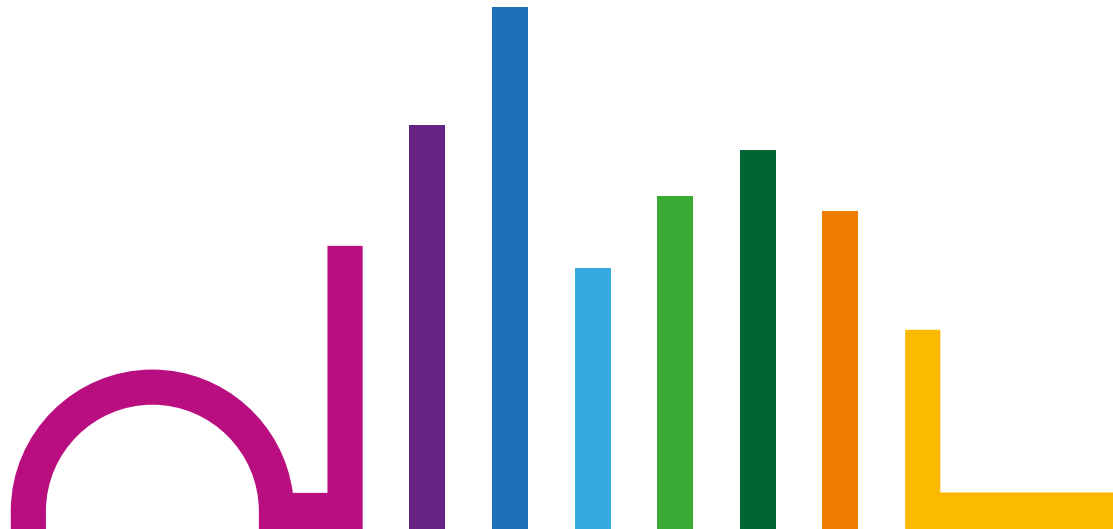Modelling the Future

WELCOME TO
OAKWOOD

Oakwood is an award winning consultancy that empowers clients worldwide to shape the future of the built environment. Our expertise in the use of 3D BIM models enables Oakwood to offer a multitude of services which help reduce risk, improve quality and enhance performance. We specialise in delivering innovative solutions which simplify delivery throughout the project life cycle.
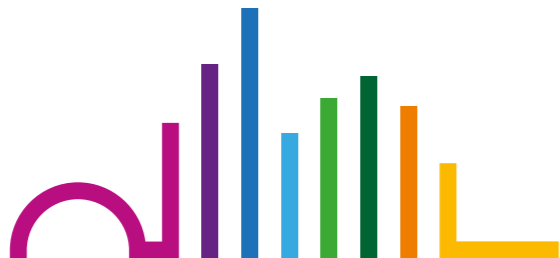
Since our formation in 1981, we have completed 1000s of projects, working in partnership with some of the world's leading construction organisations. Our support has helped our clients win £billions worth of tenders and bids, with impressive and detailed multi-dimensional presentations.

MODELLING THE FUTURE

Our team of skilled professionals utilise the latest technologies for modelling, information management and process improvement... our 4D visual planning and Building Information Modelling expertise is second to none... and our specialist structural engineering division has the capacity and experience to accommodate structures of all sizes and types.

Continual investment in innovation combines with our experience and expertise to make Oakwood leaders in the field. We are your ideal partners.

Talk to us and find out more today.

MULTI AWARD WINNING BUSINESS

ORDSALL CHORD, SALFORD

SIMPLIFYING DELIVERY THROUGH
BUILDING INFORMATION MANAGEMENT

Our team of Information Managers have vast experience of specifying, creating and managing information models, helping our clients deliver their projects successfully and efficiently.

We develop organisation BIM implementation and management strategies, setting out a structured approach aligned with current principles of BIM Level Two - assisting developers, design teams, contractors and suppliers by working alongside them to implement new procedures into their businesses. This enables them to be self-supporting and able to manage the deployment of BIM independent of external consultants.

We support the creation, deployment and management of BIM and information management systems covering the entire project life cycle.
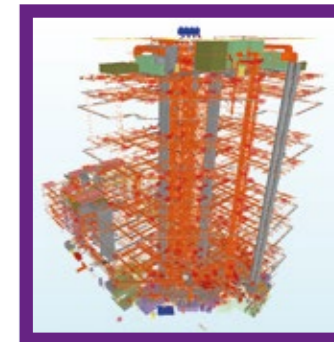

OLD ADMIRALITY BUILDING, LONDON

REDUCING COSTLY CLASHES & ENHANCING EFFICIENCY WITH
DESIGN COORDINATION & DATA MANAGEMENT

→ **AVOID UNNECESSARY DELAYS AND WASTE BY READILY IDENTIFYING CONFLICTS IN PROPOSED DESIGN.**

3D DESIGN COORDINATION

Acting on behalf of clients, design teams and contractors, Oakwood manage the coordination of design, using the most advanced tools on the market, such as Solibri. We have a long and impressive track record of significantly reducing design clashes - and therefore reducing both costs and on-site risks.

Our experience means we are able to coordinate and interrogate multi-disciplinary design information, and we work within project teams to ensure that the process of design coordination and clash detection is efficient, productive and reduces risk.

With full and accurate 3D design coordination, you will save time and money and avoid potential problems during the build.

DATA MANAGEMENT

Project BIM requirements detail masses of specific data to enable the successful creation of an Asset Information Model (AIM). Our efficient validation and assurance workflows assure full visibility of model content, and robust reporting procedures enable effective decision making, control for our clients and ultimately ensure compliance. Our services include:
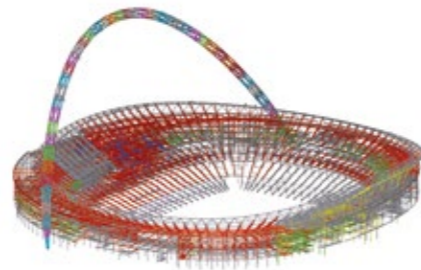
• **Gap analysis reports at tender stage**
• **Model auditing/validation against Employer's Information Requirements (EIRs) and/or BIM Execution Plans**
• **Data mapping**
• **COBie creation**

CREATING ACCURATE DATA-RICH OBJECTS THAT UNDERPIN BIM WITH
3D MODELLING

Oakwood have led the way in 3D modelling for the design and construction industries since the early nineties. We can address all your requirements by:

- **Encompassing architectural, structural and MEP modelling**
- **Using a wide range of authoring tools to create our 3D models, adhering to the Level of Development (LoD)**
- **Creating accurate 3D models of construction plant, logistics and temporary works**

By bringing the project to life with 3D modelling, we can help you create the winning tender and achieve BIM compliancy.

→

WEMBLEY STADIUM, LONDON

20 FENCHURCH STREET, LONDON

ILLUSTRATING PROJECT TIMINGS & LOGISTICS WITH INTEGRATED
4D MODELLING

Oakwood's 4D modelling solutions allow the client to see into the future - the 4D model gives you an advance insight into any stage of the project. By adding the 4th dimension of time to the model, you can repeatedly build the project in a virtual space, whilst making continuous refinements to assure the best possible outcome.

Using Synchro, Oakwood has created stunning 4D environments for some of the world's biggest and most prestigious projects, supporting leading developers and contractors from London to New York and from Abu Dhabi to Sydney. Our experience is unrivalled, and all of our models are built by a large team of construction professionals in house, so they can be created rapidly and with full compliance to industry best practices.

COMPLEX SUBSTRUCTURE IN A CONFINED, CITY LOCATION

Our 4D simulations are powerful communication tools which have helped win £billions worth of bids, brought invaluable benefits to pre-construction planning and are an indispensable addition to a Construction Manager's toolbox.

- **Optimises construction methodologies**
- **Improves safety planning and visual method statements**
- **Helps communicate complexity and demonstrates USPs**
- **Demonstrate feasibility and on-time delivery**
- **Advanced reporting tool - progress updates and planned v actual**
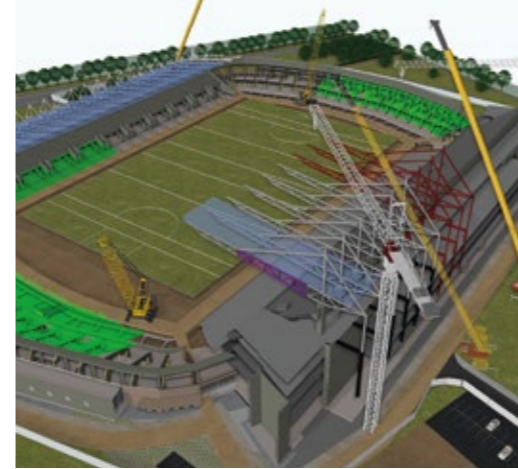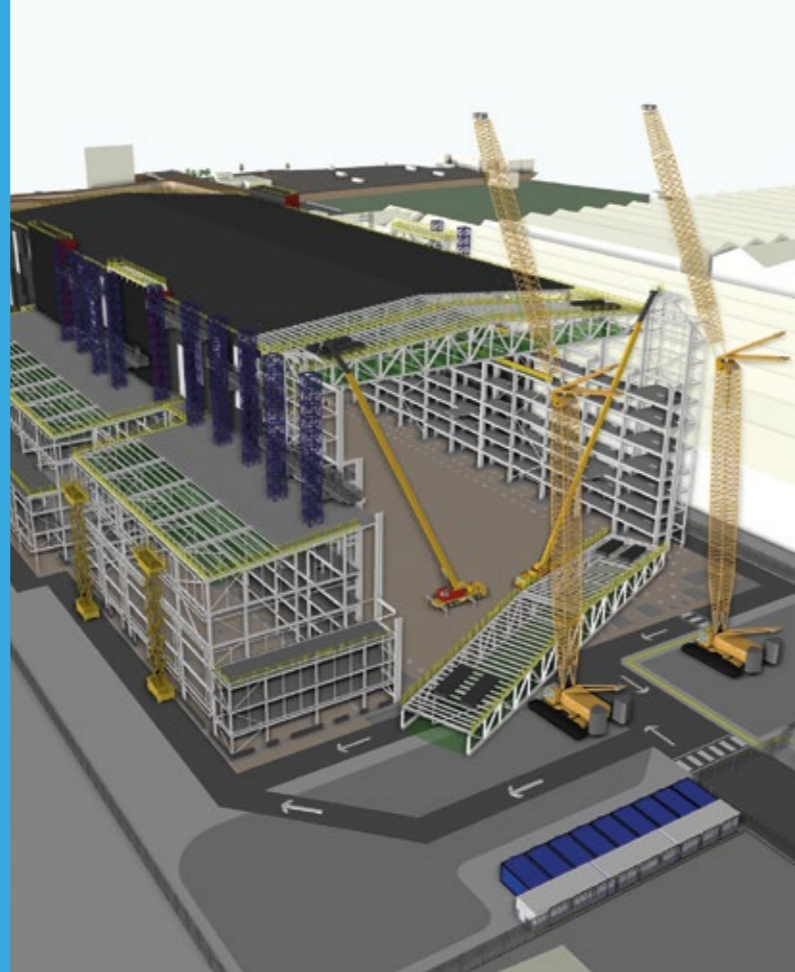- **Enables effective collaboration**

4D modelling is the secret of successful bidding. It brings the project to life for your clients, whilst performing an integral role in assuring the most robust submission.

> **OAKWOOD EXCEEDED EXPECTATIONS WITH THEIR INNOVATIVE APPROACH AND PROFESSIONAL DELIVERY.**
> **THE BIM MODELS FORMED AN INTEGRAL PART OF OUR PRE-CONSTRUCTION PLANNING.**
>
> **Richard Troup**
> Planning Director, Multiplex

MULTI AWARD WINNING BUSINESS

WINNER
SYNCHRO GLOBAL VISUAL PLANNING AWARDS PROJECT OF THE YEAR

Gravesend Railway Station Remodelling

↖ **P'AIRC UÍ CHAOIMH STADIUM, IRELAND**

↗ **BAYONNE BRIDGE, NEW YORK**

↙ **ONE BLACKFRIARS, LONDON (L) ST GEORGE TOWER, LONDON (R)**

↘ **WATERLOO STATION, LONDON**

CREATING IMMERSIVE ENVIRONMENTS USING
GAMING, VIRTUAL REALITY & VISUALISATION

Major advances in gaming and construction technologies over recent years have enabled the two industries to join forces to produce a new wave of beneficial applications. At Oakwood, we have invested significant effort and resource over the past five years to develop bespoke applications for the built environment.

We have developed ground breaking, fully interactive VR platforms utilising BIM models and 'gaming' technology. We have developed our own functionality and user interface to leverage full value from these models, including measuring, snapshots, 3D markups, 3rd person view, drone view, teleporting and many more.

Users can now visit the site remotely and 'walk around' every aspect of the proposed development, check out BIM information that has been directly mapped from IFC files or experience the build sequence in the first person... immersing themselves in the design and build so they achieve an in-depth vision and understanding of the project.

Our 3D visualisation team produce high resolution images and films which enable clients to visualise their projects. They can enhance their bid submissions with stunning photo-realistic content, capturing proposed scenarios and enabling viewers to explore them in detail with accurate 360 degree panoramics.

HEALTH & SAFETY

Gaming has enabled a whole new approach for health and safety planning. Our health and safety platform allows the user to undertake full reviews in the immersive environment. Safety markers can be placed as risks are identified, and specific information can be embedded into each marker and saved, so the tool can be used for method statements and inductions. The models can be used and operated on the desktop with an Xbox controller or using the VR headset.

Our environments include:

- **4D Virtual Reality**
- **Future State Design Visualisation**
- **Health and Safety Review Tool**
- **Desktop or VR Asset Information Models**
- **Show Home Design Tool**

QUEENSFERRY CROSSING, SCOTLAND

35 YEARS OF EXPERIENCE IN
STEELWORK DETAILING

Our specialist structural engineering division has worked on some of the world's biggest steelwork projects, from the iconic arch at Wembley Stadium to the Hong Kong Conference & Exhibition Centre and to complex projects in Australia.

35 years of experience and expertise mean we have the capacity to accommodate structures of all types and sizes - buildings, bridges, power stations, stadia, temporary works, to name but a few.

We use Tekla Structures to create detailed models and drawings - not just for fabrication but for 4D programme analysis and post-project analysis, including dispute resolution.

Oakwood have helped clients deliver major steelwork projects successfully, worldwide.

Using Tekla Structures we can deliver:

- **Customised fabrication drawings**
- **Individual fitting sketches**
- **Developed template drawings**
- **General arrangements for planning and erection**
- **Bespoke reports - for material and bolts, etc.**
- **Cam Data - including NC and DSTV**

THE SHARD, LONDON

3D LASER SCANNING FOR **PRECISE POINT CLOUD SURVEYING**

3D laser scanning facilitates precise modelling of existing conditions of an asset - capturing dense point clouds which represent exact measurable copies. It is fast becoming the industry standard of surveying techniques. At Oakwood we use market leading laser scanners to produce highly accurate 3D point clouds of buildings, environments and locations.

We have provided laser scanning surveys on over 50 projects, across many sectors, to document existing conditions - contributing to the development of intelligent information models.

As-built 3D laser scanning surveys are invaluable for heritage sites, refurbishment BIM and topographical information.

We use the data produced by these surveys for:

- **3D modelling**
- **3D topography surfaces**
- **2D CAD drawing**
- **Reports**
- **Installation tolerance checks**

DETAILING DESIGN CONFLICTS AND ACCURACY TO AID **DISPUTE RESOLUTIONS**

Analysing a project post-completion helps stakeholders to identify reasons for poor performance, delays, cost overruns or defective work.

Oakwood have a wealth of experience in forensic planning and assisting in the resolution of design and construction disputes in many sectors. We utilise our strengths in BIM, 3D design coordination and 4D modelling to analyse in depth and deliver reports - fully underpinned by forensic evidence and data which supports our findings.

We will help you resolve disputes accurately, fairly and efficiently by delivering detailed and conclusive reports.

Our methods include:

- **Forensic Validation and Auditing of 3D BIM Models:** creating reports detailing design conflicts within 3D BIM models, providing full visibility of model content and checking accuracy and completion against BIM contract documentation.
- **4D Modelling - Programme Visualisation:** graphical presentation of complex programme changes and delay events in a simple, easily understood format for key decision makers and stakeholders, with visual narratives driven by the programme data.
- **4D** showing the impact of delays in real time and checking visual logic integrity, baseline v actual comparison and 'what if' scenarios.
- **3D Visualisation** of Design and Construction Data, intelligently mapping accrued data.

WE'VE WORKED WITH...

VINCI CONSTRUCTION UK · lendlease · MULTIPLEX Built to outperform. · Sir Robert McAlpine · cleveland · CANARY WHARF GROUP PLC · BYRNE GROUP · ballymore.

Wates · MAG · OSBORNE · MORGAN SINDALL · Interserve · BOWMER + KIRKLAND · CANARY WHARF CONTRACTORS · bam

WILLMOTT DIXON SINCE 1852 · Built. · Severfield · mace · BUILDERS SISK CONTRACTORS Established 1859 · roberts pizzarotti · GallifordTry · Berkeley Designed for life

OAKWOOD
Modelling the Future