



HOW TO OVERCOME
THE **TOP 3 INDUSTRY**
CHALLENGES
AND DELIVER
A SUCCESSFUL
PROJECT

Bentley®

BUSINESS LANDSCAPE FOR CONSTRUCTION IN THE UK



1.5%

Average profit margin
of top 10 UK T1
contractors

(source: constructionenquirer.com)



8%
INDUSTRY
GROWTH

After declining in 2020 the
construction industry is expected
to rebound and grow by 8% in 2021
with an average growth of
2.5% between 2022 to 2025



0%
NET ZERO
EMISSIONS
TARGET BY
2050

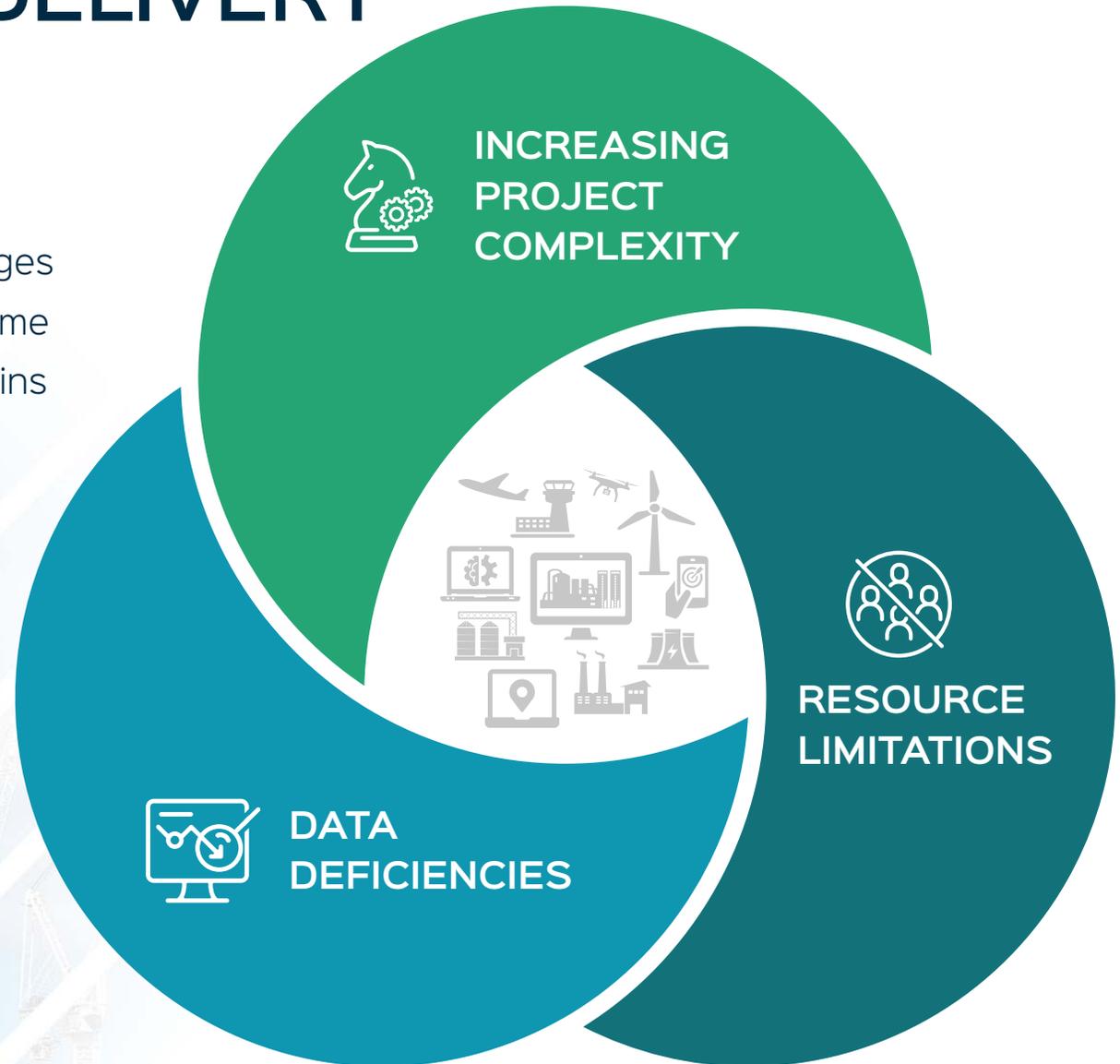
Opportunities from green
investments and the retrofit
of physical buildings to
meet targets

At 1.5% there is a fine line between profit and loss. Whilst profit margins remain tight, the construction industry in the UK is Forecast to bounce back and grow by 8% in 2021, with opportunities from investment in utilities and infrastructure as well as the projects benefitting from the UK government Net Zero emissions commitments.

To ensure your business is fit for purpose and ready to embrace the opportunities on offer we look at the main challenges to successful project delivery and how technology can help you capitalise on growth whilst maintaining or increasing profitability.

INDUSTRY CHALLENGES TO **PROJECT DELIVERY**

There are increasing challenges that companies must overcome to maximise their profit margins and be competitive.



INCREASING PROJECT COMPLEXITY



SOLUTION :



1. INDUSTRY CHALLENGE – TO PROJECT DELIVERY

Increasing design complexity and project size

- Construction has always been a complex and high-risk business with many disparate teams, organisations, processes, and systems used across various stages.
- The continuous innovation in materials and technologies has opened the ability for architects to design ever more complex buildings.

Increasing delivery expectations to do more with less

- Budgets are squeezed now more than ever. Legislation means greater controls and safety measures are expected across a range of building projects such as high rise residential buildings, with the golden thread of information creating an unrefutably history of decisions and approvals across an asset lifecycle.
- Furthermore, as more key stakeholders become involved in decisions, greater transparency is required to ensure the right information is available at the right time to the right people.
- There is also increased demand for greater sustainability and resilience across investments that may include considerations for minimising environmental impact, reduced waste generation, and lower energy consumption.

By embracing construction project information management technology and collaboration across your business, it will demonstrate to clients and supply chain partners your ability to manage complex projects and reduce the risk of delays and costly rework or waste.

A common data environment (CDE) is often called a single source of truth as it manages information across your project teams, establishing definitive source for documents, data and drawings to securely share with key stakeholders.

The CDE ensures consistency of data, enabling integration with your own eco-system, or connectivity with smart technologies to drive sustainability.

The CDE also forms the basis for Digital Twins, enabling clients to visualize their asset before construction, forecast performance and deliver a better result for end users.

RESOURCE LIMITATIONS



SOLUTION :

2. INDUSTRY CHALLENGE – TO PROJECT DELIVERY

Lack of skilled labour

- Blame Brexit, the pandemic or a lack of investment in training in the construction industry, either way skilled labor is becoming increasingly scarce, pushing up project costs.

Materials getting more expensive

- Costs have skyrocketed in the past year, with delivery timescales uncertain.

Large capital equipment costs and utilisation

- A number of factors including mega projects already under way are pushing up the costs and reducing availability of equipment.
- All of these mean that suppliers and procurement teams have to be agile

Asset owners such as Heathrow Airport are specifying off site construction as a way of controlling cost and reducing delays.

Used for many years across the housing industry, such modern methods of construction offer a number of benefits, including faster build programmes, reduced costs, a reduction in labour, as well as a considerable reduction in building materials waste through better planning, which has the added benefits businesses met their Net Zero targets. Now the construction industry as a whole needs to leverage technology to automate the mundane and do more with less.

A common set of standards and workflows across the project is vital to ensure information is accessible and usable across all stages of design and construction though to handover and operation.

DATA DEFICIENCIES



SOLUTION :



3. INDUSTRY CHALLENGE – TO PROJECT DELIVERY

Driven by data silos

- Project teams are larger, more geographically distributed, and span multiple organisations. This creates data silos with information being stored on personal laptops, shared via email or generic filing systems, or remain on suppliers own CDEs. In these cases, participants often waste time... and have the potential to reference the wrong and/or out of date information.

Poor quality data

- It can take project managers many hours to simply correct the name of files so they are suitable for uploading and document controllers to a common data environment (CDE). This creates delays to delivery as well as increasing risk of mistakes from manually renaming files.
- It also leads to difficulty reporting on progress and identifying risks.

Unaligned, unaccountable and inaccessible

- The growing complexity of projects has created an unprecedented amount of project data, most of which is unstructured and never referenced. Ensure you know what data your client wants. Do they need to know every component in the air conditioning unit, or specific attributes identified in the master information delivery plan/technical information delivery plan or project mandate?
- Ensure that data is properly stored and managed, accessible by all team members, so the final version is approved and trusted at handover.

Align your entire project team within the CDE to ensure document naming standards and work processes are consistent and adhered to. A CDE helps to enforce industry standards such as BIM compliance and ISO 19650 processes across a project, reducing time spent correcting file names, and ensuring the right information is procured and uploaded.

However, a CDE should not simply be a data dumping ground. A CDE should categorise information as WIP, Shared, Published and Archived so it is easier to find and report on progress. By facilitating access to latest information and breaking down barriers impeding collaboration, your team is connected, and information is trusted.

BENEFITS OF USING A CDE FOR PROJECT DELIVERY

There are many benefits to be gained from using a CDE including:



SAVE TIME

- By helping project teams collaborate more efficiently
- Helps to deliver approved project information on time ready for handover
- Ensures project and asset information is maintainable and trusted



REDUCE COSTS

- Procure supplies and schedule projects with greater precision
- Optimise usage to reduce waste
- Reduce the duplication of information such as surveys



ENSURE COMPLIANCE

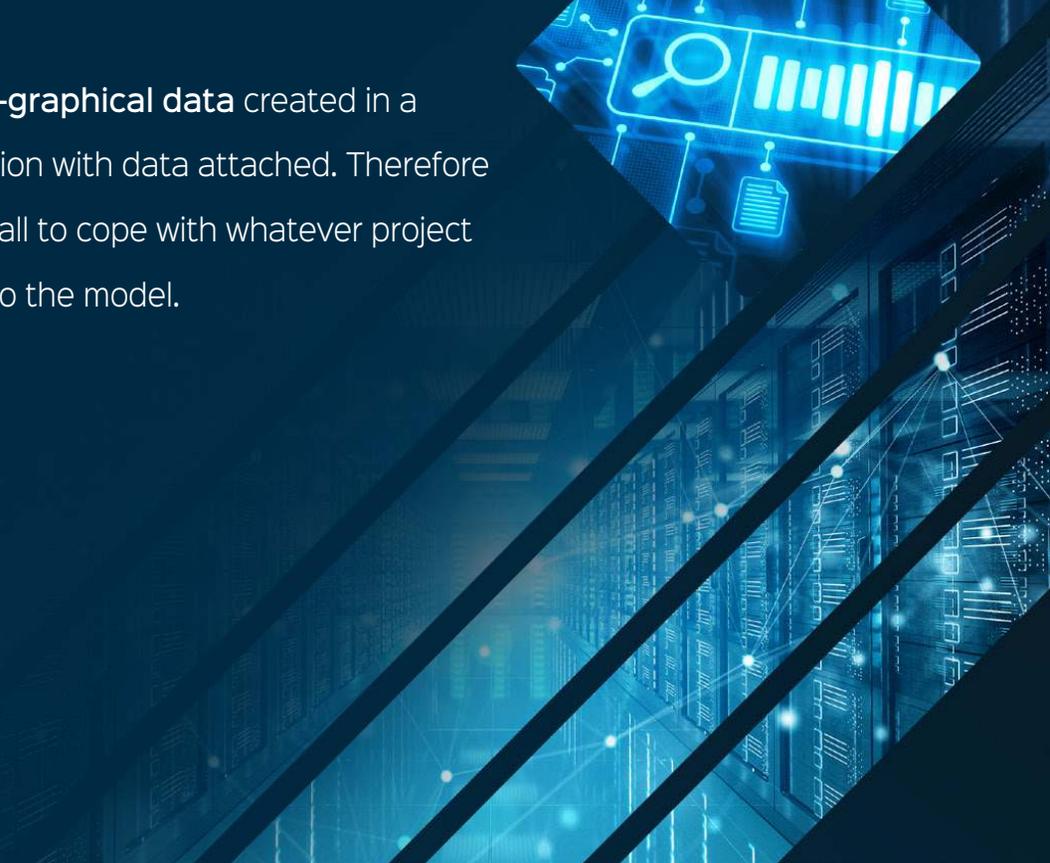
- Improve health and safety and regulatory records
- Prevent misuse of unauthorised sharing of information
- Provides a single source of truth, the basis for the 'golden thread' of information and decisions

HOW TO CHOOSE THE RIGHT CDE

CONSIDER THE FOLLOWING QUESTIONS:

Does the CDE store the correct data in the correct way?

- The ability to **store and organise the data in a consistent manner** is the bedrock of BIM ideology. A CDE should not only store data but boost your productivity by delivering the right information to the right people, at the right time.
- **CDEs need to be able to handle both graphical and non-graphical data** created in a BIM environment, as BIM often requires 3D building information with data attached. Therefore a CDE should be able to handle IFC 3D models large and small to cope with whatever project you're working on, as well as the associated data attached to the model.

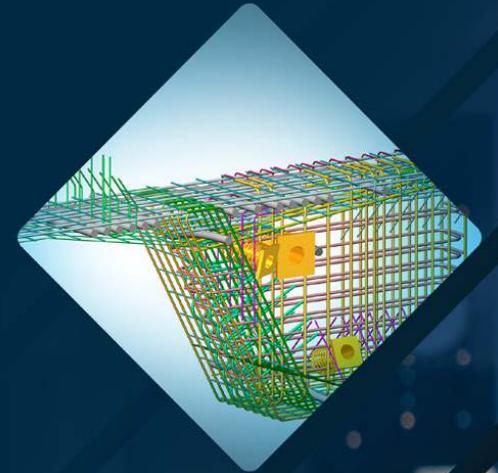


HOW TO CHOOSE THE RIGHT CDE

CONSIDER THE FOLLOWING QUESTIONS:

Is it easy to use?

- One of the main issues people find when using CDEs is usability. If your teams can't easily find information, there is poor acceptance or take-up.
- A CDE should be able to **handle industry-standard file-naming conventions and make file searching simple**. Look for features such as metadata tags that allow files to be categorised by their content, easy to upload via drag and dropping files, and automatic file naming to remove the confusion and time consuming task of renaming files from suppliers. This sets up your data for easy retrieval in the future.
- There should generally be four main areas for storing and sharing data, with a sign-off process allowing information to pass from one area to the next. These are **Work in Progress (WIP), Shared, Published and Archived**.



HOW TO CHOOSE THE RIGHT CDE

CONSIDER THE FOLLOWING QUESTIONS:

Can you collaborate with others on the CDE's stored data?

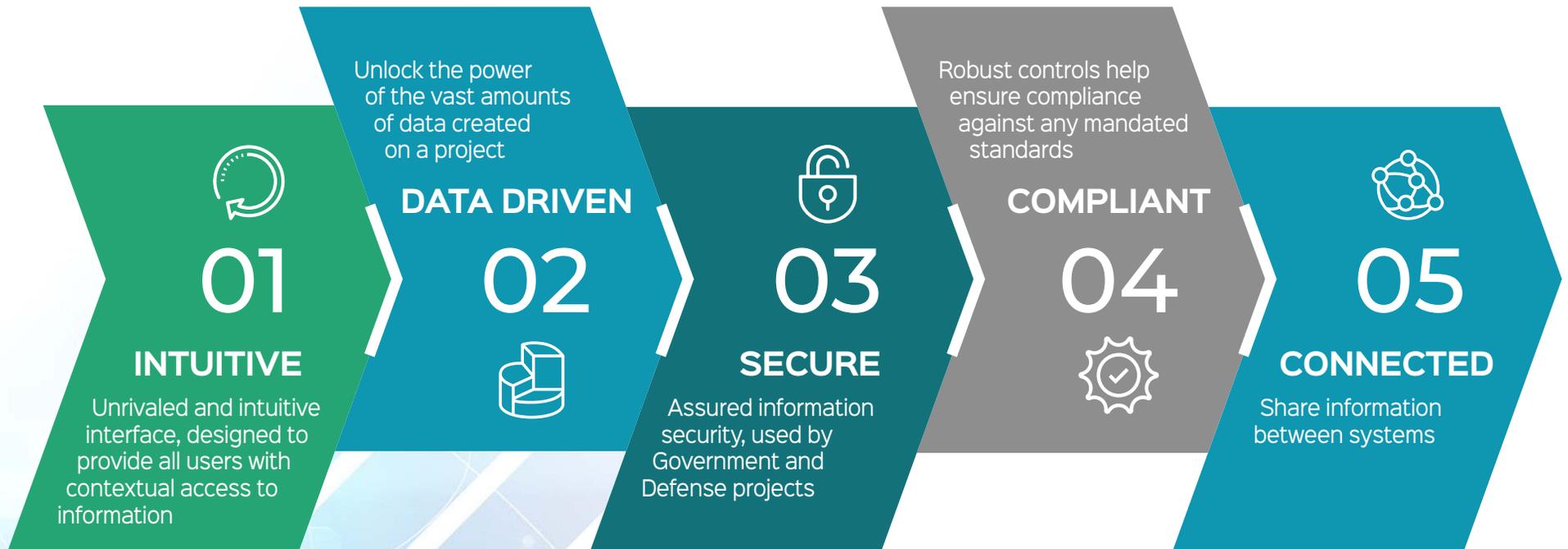
- A CDE is all about **gathering data for easy future decision making** as well as collaborating with teams, so it should enable you to make decisions assuredly.
- In terms of access, people should be able to log in to the CDE through their browser, using a laptop, phone or tablet to view information. And in terms of backing up, your cloud-based CDE should automatically save and back up any changes.
- Many UK organisations also require their data to be hosted and stored in the UK for data protection so this should be a consideration if you are working on sensitive projects.

Does it provide a single source of truth for your project?

- A CDE should ensure that **every file is always up to date and should record version history for accountability**. This ensures that everyone has a single source of truth they know is the most up to date version of information to base decisions upon. This reduces the risk of delays as people search for the right information, or information is lost due to being stored on personal laptops.



WHAT MAKES BCDE PROJECT DIFFERENT?



START BENEFITTING TODAY WITH **BCDE PROJECT**



BCDE Project

BCDE Project is Bentley's turnkey CDE solution that makes information management and collaboration easy, safe and secure for construction projects.

[LEARN MORE >](#)

Contact us at bcde@bentley.com

