bimobject®

Building collaboration throughout construction phases.

A manufacturer's easy, comprehensive guide to BIM.

Let’s talk about BIM.

Do you ever wish that you could plug a cord into your brain and learn stuff in seconds? Well, we all do at times. Unfortunately, science hasn’t made it that far yet. What we can offer you instead, is a guide into BIM: Building Information Modelling. We won’t use overly technical jargon or get into the nitty-gritty details. Just easily digestible information to get you up to speed and get you speaking the same language as architects, engineers and contractors.

This is *your* fast-track guide into the building phases. We aim to give you, the manufacturer:

- ✓ **Why BIM matters**
- ✓ **The building stages and how you fit in**
- ✓ **How you, as a manufacturer, can take part in the BIM process.**

Let’s jump into it and learn.

A swift introduction to BIM.

The acronym, process and key components

What is BIM?

BIM, short for Building Information Modelling, is a digital process where information about every single component in a building and construction project is managed across the project team and throughout its life cycle.

Sounds complicated already? It doesn't have to be. Let's keep the focus on the keywords: **digital, process and life cycle.**

The **digital** building **process** gives architects, engineers, contractors and owners/operators (AECO) precise information about a building's physical and functional components. This, in turn, makes it easier to **plan, design, build, maintain and demolish** in a smarter, faster and more sustainable way.

But it's not all talk and no walk: national policies are popping up, adoption is skyrocketing and manufacturers are joining the race to reach BIM-fluent specifiers. It's not just that BIM will play a lead role in the future. BIM *is* the future of the construction industry. How can you, as a manufacturer, get a head start in the race? Well, you need to supply BIM objects.

Why you need BIM objects

Are BIM objects something different from BIM? *Yes* and *No*. BIM objects are a part of BIM.

Think of them as the building blocks of a digital project. They are represented digitally and contain data that characterises it. This data could be all the geometric data and properties that allow the user to place it into various positions in the digital model, but also other types of information that help AECOs to determine its longevity, behaviour, impact on the environment, recycling or even disposal.

In simple terms, a BIM object is your product's digital twin, containing all the relevant information for specifiers to see.

It's increasingly the case that BIM objects are no longer just a 'nice to have'. Manufacturers need them to expand their reach, find new routes to market, enhance product development through early testing, increase collaboration across teams… we could go on. *And we will.* But the question is:

What value does it bring?

What value does BIM bring?

Why BIM matters to specifiers, manufacturers and the world

Better and more reliable information

Accurate product and project data make it easier to provide the most efficient construction workflow for the project.

Stronger Communication

Gathering project data in one place results in better collaboration, communication and understanding between all parties involved.

Efficient use of resources

Ideas can be tested and shared in the model rather than on-site, resulting in fewer errors, lower costs and happier clients.

Enhanced efficiency

Digital construction management speeds things up, propelling improvements in project management.

Carbon saving

BIM objects often offer sustainability data which helps to identify sources of carbon savings, simulate the environmental impact and make greener choices.

Health & Safety

A digital construction process also helps with site layout and access, as well as to effectively plan for safety equipment provision.

Want more on BIM? Check out our BIM basics webinar >

The digital building process.

From concept to maintenance (*and demolition*)

BIM centres on collaboration...

We understand that BIM, and all that it can do and provide, is not the easiest to grasp. By now, we're sure you have a much stronger understanding of what BIM is and what it can do than you might have had before you clicked *"read now"* on our landing page. If you've downloaded our e-book on the key players in BIM – you have the added bonus of knowing *who's* involved, *why* they're involved and *how* they're involved.

In this section, we'll go into more detail about the impact BIM has across the three phases of the digital building process. And ultimately, we'll ensure you understand how BIM provides a great opportunity to create value for all involved.

... and creates manufacturer synergies

With BIM, the manufacturer is much more involved in the realisation of the project and its operations. We're talking about a supplier being able to track their product through several projects, collating useful information such as problems with commissioning, installing or even operating the product and understanding what the real shelf-life of your products are.

BIM generates information about the life cycle of a building and manufacturers should be able to access this information and use it to their advantage. Being an integral part of the construction value chain as well as being closer to construction companies benefit manufacturers while at the same time also receiving better feedback on their products.

So, let's lay the final pieces of the BIM-basics puzzle and incorporate it into the three phases of digital construction projects: **Design, build and maintain.**

The BIM elements of a building project process

- **3D modelling**
- **Visualisation/rendering/animations**
- **Walk-through**
- **Virtual Reality**
- **Activity simulation**
- **Performance simulation**
- **Performance assessment**
- **Demonstration of compliance**
- **Communication**
- **Design verification**
- **Leaner project processes**
- **Process Management**
- **Information management**
- **Collaboration**
- **Design coordination**
- **Clash detection**
- **Sharing information**
- **Reliable information**
- **Embedded information Scheduling**
- **Costing**
- **Programming**
- **Digital Prototyping Manufacturing**
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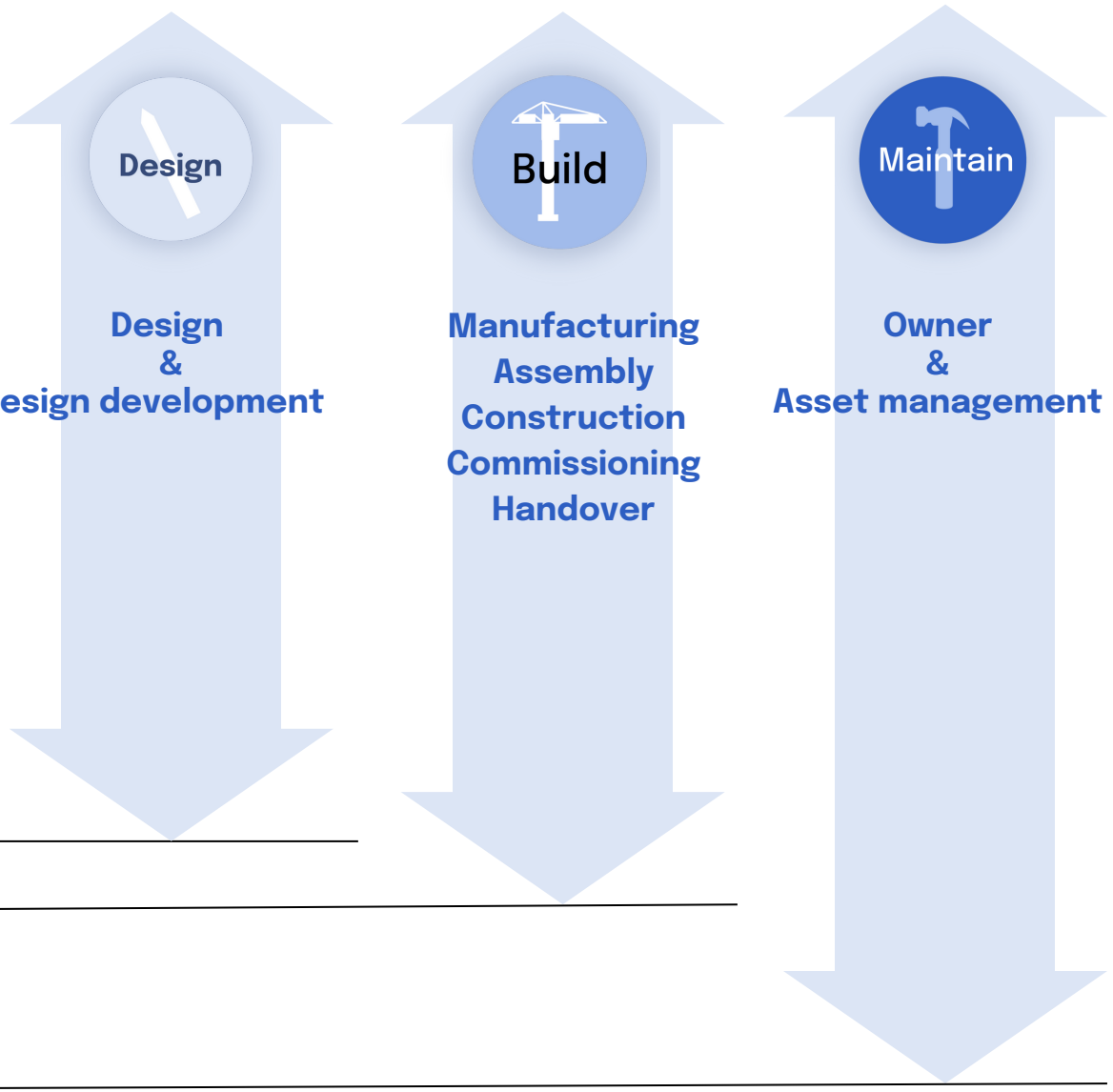
- **Commissioning**
- **Asset management:**

- Maintenance
- Operation
- Refurbishment/Alteration
- Demolition



Step 1: Design.

The phases of a digital building process

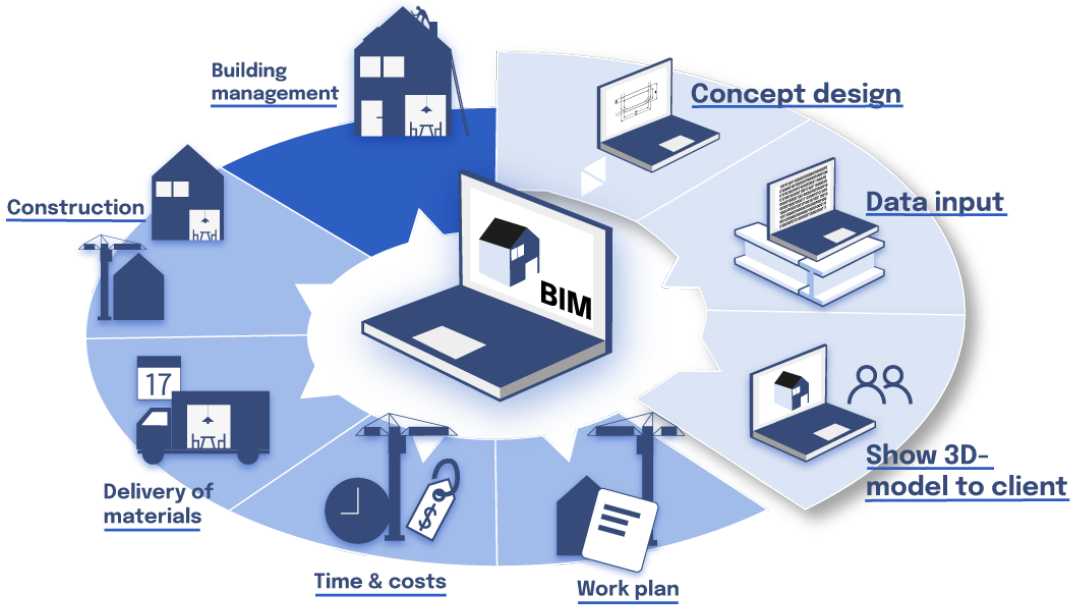
What happens?

Okay, so let's sit down and talk design. This is the first step in a long, exciting process and also where the bidding often begins! Collaboration is key here, and as the designers (architects, interior designers and engineers) work their creative magic, it needs to align with client demands and requests. Come to grips with the client's role in BIM >

How BIM helps

In the design phase, BIM creates ease in product selection, accuracy and shared information. BIM and BIM objects make it easier for designers to envision and enliven the concept. Designers assess the object's geometry, performance data and aesthetics. If it's up to par, it's downloaded and included in the model. The data is then collated into a common data environment.

With the right information, the designers get a highly accurate picture of the different building components. Not only does this help identify and mitigate errors right up front, but also make it easier to calculate the project's impact on the surrounding environment. Imagine solving problems, finding errors and clashes already in the planning stage. Pretty sweet, right?



Benefits in practice

A 2010 study by Lu and Korman reveals that the BIM model used for a modular high school project in North Carolina helped identify and resolve a total of 258 conflicts during the design phase.

“The information contained within BIM objects allow us to work smoothly and integrate them directly into the project specification. The objects’ quality matches our needs.”

Thomas Van Havre
Architect
Cushman & Wakefield Design + Build

“My goal is to use the best BIM objects for my projects and use products that really exist in the market–not generic 3D models. That way, I can easily manage and control my design projects and reduce unexpected issues.”

Melissa Domenici
Architect
expert in residential design

“High-quality BIM objects enable us to plan projects with real objects that reflect the conditions of the site, implementation specifications and precise dimensions before the construction phase. If a manufacturer does not offer BIM objects, we will switch to a manufacturer who does.”

Yann Lescop
Architect
Oeuf de Colomb

Want more insights from designers?
Download your copy of Why specifiers use BIM today >

How manufacturers can get into designs

Why the design phase matters

The design phase is the critical time when designers look for inspiration and products for their projects. They rummage through piles upon piles of information, visualise the future build and find the best-suited products based on aesthetics and data.

The design phase is critical for manufacturers, too. But why's that? Well, you're 80% more likely to get specified if you're included in the design (DBEI).

BIM objects get you a foot in

For designers, your product is only as attractive as the available data about it. Ensuring that the information is easy to find and accurately describes its main capabilities can determine whether your products are selected – or ignored.

Given that architects and engineers use BIM objects to create the model during the design stage, BIM is extremely useful for manufacturers as it plays an important part in getting products considered by specifiers.

Remember: BIM objects contain lots of data. If design teams have the information they need, they are more likely to select these products for their projects.

Manufacturers who create and supply BIM objects generate a win-win service and a competitive advantage. Not only are you providing a time-saving shortcut to your products – you're also speeding up the decision-making process and, as a result, the journey to specification. Getting your foot in as early as possible in the building process will yield long-term results. *More on this later...*

Step 2: Build.

The phases of a digital building process

What happens?

With the design sorted, it's time to plan and construct the build. Construction sites consist of many moving parts, so timing, planning and logistics are key.

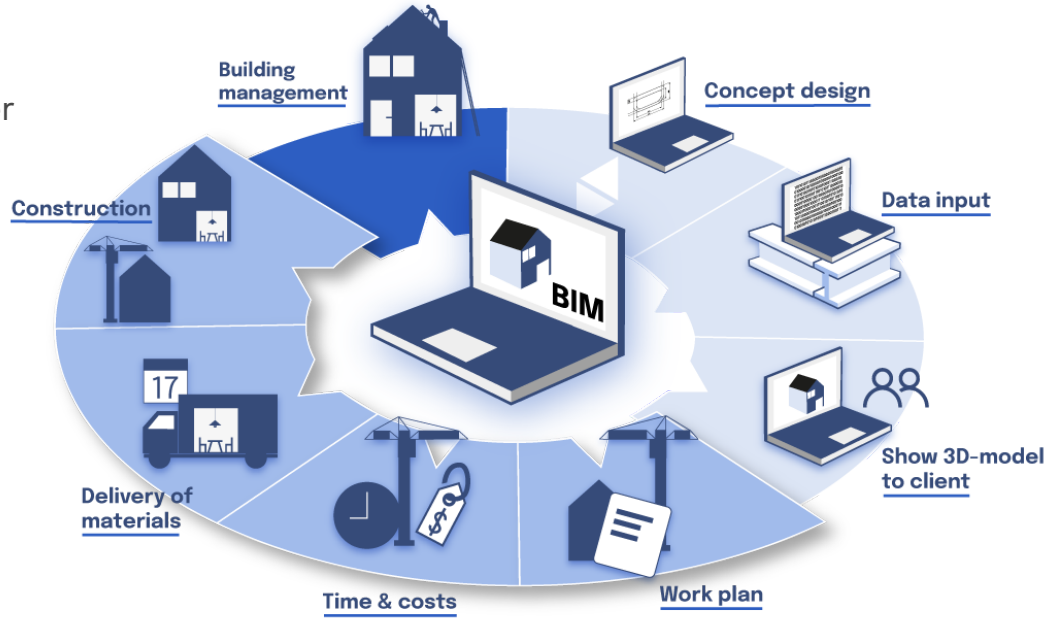
How BIM helps

Having a central 3D model that all involved parties can refer and adapt to in the planning stage improves productivity. BIM...

... **Improves coordination** by optimising logistics, planning and minimising risks. Easy coordination with build partners results in the ability to manage the precise placement of material at the right time.

... **Leads to fewer mishaps** by optimising the use of space on the construction site and visualising how the project progresses over time – increasing productivity and eliminating waste.

... **Nails down the cost** by planning the quantity and reducing errors. The BIM model can calculate total project costs and assess how potential changes may impact it. When scheduling or design changes, that information is updated to the total project cost.



Want to know how BIM serves on-site coordination?
Get intel from Matteo Gianninoto, BIM coordinator >

How manufacturers collaborate in the building phase

We spoke about the importance of manufacturers collaborating with ALL stakeholders. And this is why: construction teams are the ones who typically order and receive physical products from the manufacturer. If the information on specific products and data is easily attainable, they are more likely to make an informed and timely decision to choose these products in the building.

On that note, the construction phase is normally the first time your physical product is experienced in person. Creating a good first impression is one thing, but you want to turn it into a positive experience, too.

We all know that poor fits, insufficient product installation documentation and uncoordinated deliveries severely impact the building project's bottom line. And frankly: *your* time. So how can BIM create a great experience for all?

The answer lies in the digital building process' visualisation capabilities and open access to project information. Having all that data at *everyone's* fingertips fortifies frustration-free construction logistics, coordinated deliveries and smooth installation. So...

Manufacturers who create and supply BIM objects help construction professionals keep to schedule and the quantity surveyor up to tabs. But it goes deeper than the single project; *happy customers are happy to return*.

Ready to rev up your digital product offering?
Go digital today >

Step 3: Maintain.

The phases of a digital building process

What happens?

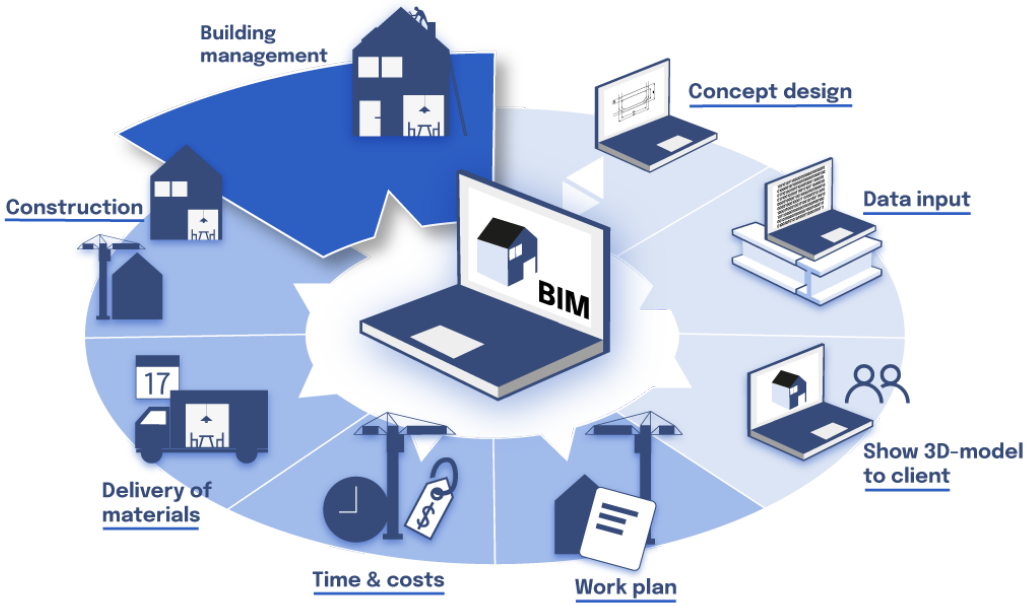
When the building is built, the building needs to be maintained. Working hand-in-hand with facilities and other maintenance teams, BIM helps to generate revenue, deliver better and sustainable work environments and actively achieve business outcomes.

How BIM helps

BIM makes maintenance smarter by providing information about the component manufacturer, installation date, maintenance requirements, lifespan and instructions for optimal performance.

Building operators can use this data at the end of a project to optimise building performance and predict maintenance costs. With BIM, facility managers can visualise facilities being created, helping them to understand project intent.

Ultimately, having detailed knowledge about the full lifecycle of the building and its value, as well as the ability to run maintenance schedule testing on products, provides enhanced visibility and ROI through cost savings, sustainability and time-effective operations.



According to R. Marsh (2017), prolonging a building's lifespan from the rough average of 50 years to 120 years will reduce its environmental impact by 44%.

How to work with maintenance

Maintenance teams, who are increasingly using the BIM model as a reference for the existing model, have access to updated documents, in particular the maintenance instructions or the data that matters to them, such as warranty conditions.

Indeed, as products get closer to their expiration date, manufacturers need to be on the ball – perfect time to collaborate with partners to propose updates, add-ons or new solutions. For manufacturers, the benefits of BIM live long after the end of a project.

Demolition

All good things eventually come to an end. *And the same story goes for buildings*. Demolition can be prevented through regular maintenance and historical buildings can be restored to their former glory through HBIM. But despite our best efforts: demolition is pretty much inevitable.

How can BIM be of assistance? A BIM building contains heaps of data. This makes it easier to extract exact material and volume information as well as integrate the information for detailed waste estimation, planning and recycling. Time is saved and less (potentially harmful) building products end up at a landfill.

Presence throughout phases.

Creating a competitive advantage for the next project.

The value that BIM provides across the business spectrum goes far beyond risk reduction, convenience and cost. The ability to increase service offerings, develop relationships that retain clients for repeatable work as well as generate profit growth is evident.

The rate of BIM uptake in the construction and industrial sectors has accelerated over recent years. Statistica states that UK construction professionals using the tool have risen from 13% in 2011 to 73% in 2020. In Japan, 54% of professionals have used it.

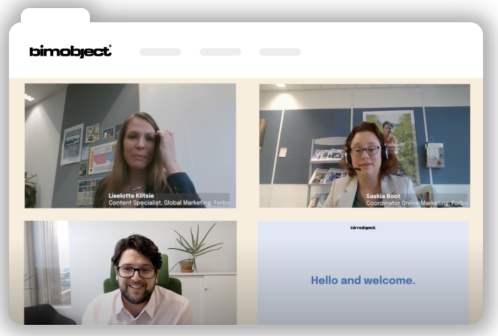
With BIM being progressively covered by nationwide government mandates, notably including the UK, Mexico, Spain, Russia and Norway, manufacturers offering BIM content gain a huge competitive advantage.

We stated at the start of this e-book that manufacturers need BIM objects and that BIM will be the future of the construction industry. These were bold statements. Now you understand why we said them and stand by them.

On bimobject.com, the global marketplace for BIM objects, you can reach over 2 million registered users including architects, engineers, interior designers and construction professionals. All browsing for the perfect product for the next grand design. But remember: a downloaded object is not the end of the journey – it's just the start. The fact that the same object can be placed in various buildings and projects is BIM's version of compound interest.

Hungry for more?

Quench your thirst for knowledge with these three free resources:

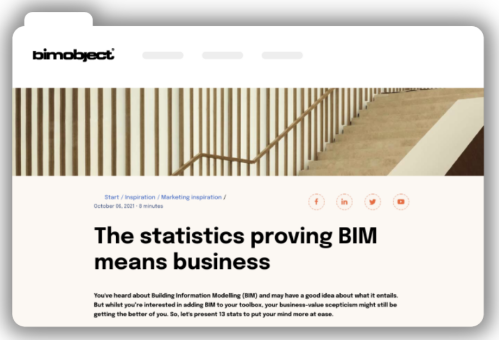


Making BIM a part of the marketing mix

Watch our webinar with Forbo >

Is BIM mandatory in your market?

Get answers in our global guide >



13 stats proving BIM means business

Jump over to the blog >

Want to get the key BIM roles down?
Get the easy – yet comprehensive – guide today.

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to attend webinars, access inspirational content and join the discussion

BIMobject.com

We can't go on building like we do today. Construction, the world's largest industry, is also among the world's largest sources of pollution, with buildings and new construction generating nearly 40% of the world's energy-related CO2 emissions.

BIMobject is on a mission to digitalise construction for a more sustainable future. We're a global marketplace for the construction industry, providing architects and engineers with the information and inspiration they need to design buildings faster, smarter and greener.

Our customers are building product manufacturers, such as Roca, Knauf Armstrong, Electrolux and Kline. They use our platform to reach, influence and understand building designers worldwide. With 2,000 building product brands and all the world's top 100 architect firms as users, we power digital building design worldwide.

BIMobject was founded in 2011, and is headquartered in Malmo, Sweden. We're listed on the NASDAQ First North Growth Market (ticker BIM) and our largest owners include EQT Ventures, and our founders.

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