

The Asset Management Lifecycle Explained

The essential guide for building owners

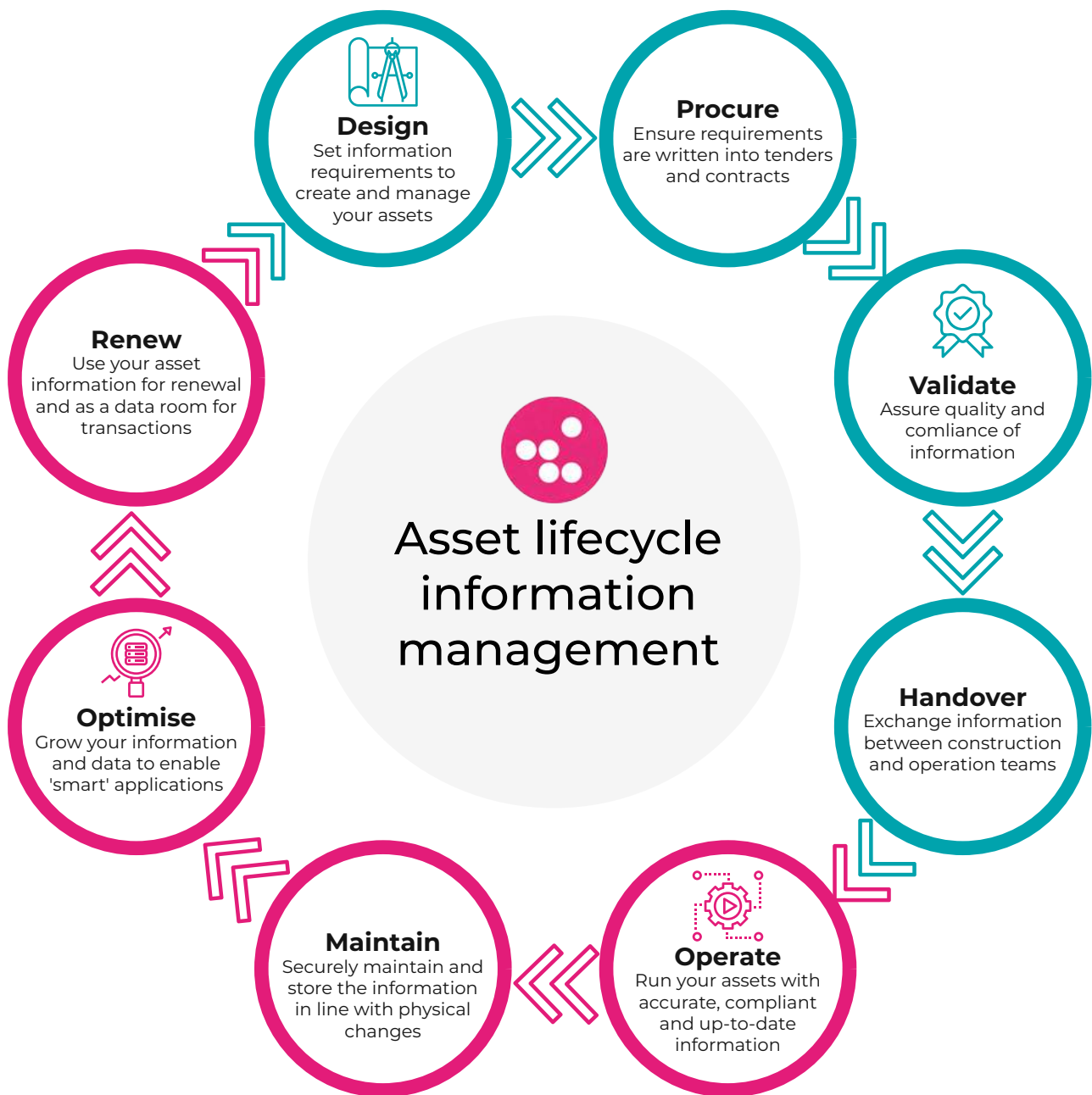




Proper information management is vital when operating a built asset. It supports the asset lifecycle from planning and design to decommissioning. With accurate and up-to-date information, asset owners can identify maintenance needs, assess risks, demonstrate compliance and ultimately save time and money.

In this eBook we explore the eight different phases information goes through in an asset's lifecycle. At each phase we'll explore the challenges and some tips for success.

Introduction

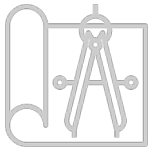


The asset information lifecycle follows the various stages through which information about a building progresses. We've broken these down into eight key phases.

Following these stages will ensure organisations have accurate, up-to-date information about their building to inform better decision-making, ensure regulatory compliance, and improve overall operational efficiency.

Let's take a look at each of these in more detail.

What is the asset information lifecycle?



Establishing the information requirements you need to create and manage your assets

At the heart of effective asset management lies the ability to harness data. From the very inception of a project, translating organisational objectives and operational needs into tangible data requirements is paramount. This pivotal stage not only defines the parameters for the asset's functionality but also lays the groundwork for informed decision-making throughout its lifecycle for those that will own, run and occupy it.

For example, if a company wanted to calculate embodied carbon and lower energy consumption, achieving this would require accurate data from various sources at different stages of the asset's journey. During the design phase, specific equipment data may be required to model energy efficiency accurately. Meanwhile, stakeholders involved in construction, commissioning, operation, and eventual occupation of the asset, contribute vital information crucial for achieving sustainability goals.

This process isn't just limited to the initial design phase of a new asset. Retrofitting existing buildings with smart technology requires the same approach, so data requirements align with the objectives of all parties involved. Whether it's optimising building performance, enhancing occupant comfort, or streamlining asset management processes, the effective utilisation of data begins at the design stage.

By integrating data-driven practices from the outset, innovation, efficiency and sustainability are optimised across every stage of an asset's journey.

Consider the objectives of all parties involved in the asset:

- ✦ Design
- ✦ Construction
- ✦ Commissioning
- ✦ Operation
- ✦ Occupation
- ✦ Asset Management

Phase 1 | Design



How to procure the data and information you require to build and maintain your asset

At the design stage, you established your information requirements and determined what data you need. Now, it's time to consider how you'll gather the necessary data and information to construct and maintain your asset. Undoubtedly, you'll have assembled a design team, and they will be able to assist in fulfilling some of these requirements. They are likely to aid in defining certain requirements as well, such as space naming and component asset ID naming.

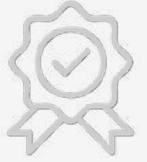
Anyone tasked with delivering information requirements must receive formal instructions through their contract. When procuring individuals or teams who will be expected to deliver or contribute to your information requirements, you must brief them so that their tender return confirms their capability to do so. If you appoint them, ensure that fulfilling these requirements is specified as a contractual deliverable, including the timeframe.

For example, you may require an asset register of maintainable equipment to obtain a competitive quote from a facilities management contractor. Typically, you wouldn't receive this until handover. However, if you intend to commence procurement of your FM contractor one year prior to handover, ensure this requirement is stipulated in the contract.

Additionally, you'll need other forms of information such as literature, documentation and drawings. These resources are crucial for compliance, as well as the day-to-day operation and maintenance of the new asset. Therefore, they should also be outlined in your information requirements.

The supplier involved in creating your asset should specify when they will supply the required information and at which stage of work (e.g. RIBA) it is normally provided.

Remember: You must include your Information Requirements in your invitations to tender and contracts!



Validating your data against your information requirements

Knowing that you're receiving what you asked for is the most critical part of the information lifecycle.

At all times, all incoming information and data should be checked, validated, and normalised. However, this process is especially crucial during the construction phase when there is a vast amount of information being collected.

Obtaining the correct information now will significantly impact how efficiently you can onboard all operational technology and manage the building. The repercussions of receiving poor information can extend into millions of pounds over the building's lifetime and, worse, compromise the safety of its occupants.

During this process, your information manager will ensure that incoming data aligns with the design specifications, verifying that it corresponds to your requests. For example, if you require the embodied carbon to be measured to two decimal places in kgCO₂e, sophisticated software such as gliderbim® can automate this verification. However, it's essential to note that while software can check accuracy, it may not determine if the measured data meets your business's specific needs.

As the owner of the information, it's your responsibility to validate it against your business or organisational requirements. This means ensuring that what you received aligns with your requests and serves the purposes of your business. For example, your trusted Information Manager can accurately calculate the total embodied carbon in a specific floor finish as requested. However, the total number may exceed your business's actual needs.

This validation is excellent because you requested this information to be delivered by a specific deadline, and now that you have it, you've validated it. With this validated data, you can effectively offset carbon emissions in other areas. You're on track to receiving an asset that meets your business needs and is ultimately... what you asked for.

Phase 3 | Validate



How information deliverables are handed over from the contractor to the owner

Leaving everything to the last minute is never a good idea. Instead of viewing the 'handover' as a massive dump of data at project completion, consider the value of strategically distributing information throughout the project lifecycle.

As we learned in the previous stage, procuring essential information at key milestones can offer significant value. Accessing information when it becomes available, rather than waiting until project completion, enhances efficiency and effectiveness.

It's essential to consider the tools you can use to manage and transfer information as well.

While contractors utilise Project Information Model Common Data Environments (PIM CDEs) to manage all working information for designing and building the asset, asset owners might lack similar platforms. Requests for data in outdated formats such as CDs, hard drives, or even paper risk compromising valuable metadata, making the information challenging to use or maintain.

Imagine converting your meticulously organised music collection into sound files on a USB stick. Despite proper naming, the loss of crucial tags limits your ability to sort, search, and manage your music effectively. Transitioning from a Project Information Model (PIM) to an Asset Information Model (AIM) follows a similar pattern but on a larger scale!

So, how do you deliver hundreds of models, thousands of documents, and millions of data points? Keep it smart!

Have the contractor responsible for handing over your information use a platform that enables the transfer and transaction from PIM to AIM. Enter gliderbim®: an innovative platform facilitating the conversion from PIM to AIM. Trusted by many of the UK's largest contractors, gliderbim® ensures the seamless transfer of data, preserving metadata integrity, and facilitating streamlined asset information management.

Phase 4 | Handover



Using the Asset Information Model to operate your building

By this stage, you should be in possession of a robust Asset Information Model (AIM) containing accurate and crucial data essential for operating your new building.

But how do you leverage an AIM to manage your building effectively?

In practice, individuals keep the building running, but the effectiveness and the efficiency of the building's technology will depend entirely on the availability and accuracy of the information and data. If your AIM is stored within an Asset Information Model Common Data Environment (AIM CDE) like gliderbim®, then the answer is yes, and you're ready to proceed.

The Asset Information Model can then become a pivotal tool utilised by various stakeholders in your building. It will serve as the Master System of Record for your asset data, encompassing the all-important Asset Register.

From engineers relying on the AIM for day-to-day operations to asset managers maintaining precise records to ensure compliance with legal requirements, your AIM becomes a vital resource for many.



“ Your Asset Information Model will become the all important asset register and the Golden Thread of Information ”

Phase 5 | Operate



Maintaining the Asset Information Model

Everyone involved in owning, running, or occupying a building understands the necessity of maintenance. A strict maintenance routine is typically established through a managed service provided by a property manager and/or facilities manager. Your Asset Information Model (AIM) plays a crucial role in facilitating this routine, as we learned in the previous phase.

As your building evolves and the information about it expands and changes, so must your AIM. Just like physical property management requires a dedicated team, maintaining a digital AIM also demands attention.

You'll need to implement measures and processes to ensure that the information generated during operation is managed and organised within the AIM. This includes documenting changes to the building and obtaining annual certificates necessary for maintaining compliance. This responsibility can fall to someone within your property or facilities management team or an Asset Information Management professional.

The volume of information within your AIM at handover will increase significantly throughout the building's lifespan, so it's essential to take control of it promptly. If the AIM falls out of sync with the physical asset, the wealth of information it holds could become redundant and unreliable.

An Asset Information Manager, tasked with administering your AIM and its Common Data Environment (AIM CDE), is indispensable. Glider's managed service, combined with their platform gliderbim®, offers an ideal solution for keeping your AIM synchronised with the physical asset.



Much like your building needs maintenance, so does your digital building or Asset Information Model



How an Asset Information Model can optimise your building

Having an Asset Information Model (AIM) that is actively utilised in operation and meticulously maintained, as we learned in the previous two phases, can significantly optimise your asset. However, we can take this a step further.

Your AIM serves as a single source of truth for crucial data concerning the components and spaces within your building.

The volume of data generated by a building in operation far surpasses that produced during the design and construction phases. Consequently, the potential for this vast dataset to become misaligned and disorganised isn't just possible; it's nearly inevitable.

However, by leveraging your well-maintained AIM as a foundational element to brief and align all operational and 'smart' technologies, you can mitigate this risk. When these technologies produce aligned data, it becomes possible to analyse and even monetise it.

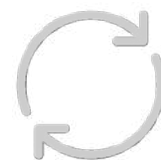
The ability to analyse data from different technologies presents numerous opportunities:

- ✦ Lower running costs
- ✦ Reduced carbon emissions
- ✦ Enhanced comfort, health, and safety
- ✦ Increased productivity
- ✦ Enhanced building value

By integrating an Asset Information Model Common Data Environment (AIM CDE) with a platform that analyses building data and your Computer-Aided Facilities Management (CAFM) system, for instance, you establish a loop of measurement, action, and improvement. This essentially supercharges your Building Management System (BMS) and unlocks unparalleled opportunities for optimising your building, creating a superior environment for its occupants, and generating greater value for its owner.

Prior to transferring to a new owner, diligently following the first six phases promises a substantial return on all your efforts.

Phase 7 | Optimise



What happens when the building is sold or demolished?

Throughout the previous phases of the lifecycle, we've explored the progression of information from design to construction to operation. In the maintenance stage, we learned that as changes occur, the AIM is updated to align with the physical building. Certain information and data is archived while new data is incorporated into the AIM.

But what occurs when the entire building undergoes demolition or is sold to a new owner? This marks the renewal stage, and each scenario presents unique challenges.

Demolition: A precise and dependable AIM proves invaluable during the planned demolition or extensive refurbishment of a building. Not only does it provide a comprehensive record to plan a safe demolition, but it also includes attributes of elements slated for demolition, offering opportunities to reuse or recycle materials or components. Within an AIM, a materials passport can be created to facilitate safe and sustainable renewal.

Transfer of ownership: During the sale of a building, thorough due diligence is essential. The more information available regarding a building's documentation, records, and history, the greater certainty exists in assessing its cost. Increased information translates to reduced risk, resulting in lower costs and smoother sales transactions. In this scenario, the AIM CDE functions as a 'data room'. Upon ownership transfer, the AIM is transferred as well and continues to be maintained following the stages we've discussed until the next transfer of ownership.

Although we've reached the final phase of the information lifecycle, the journey doesn't end here. The process starts again with either the construction or the occupancy of a new building.

Less Risk = Less Cost + More Certainty

Phase 8 | Renew

Do great
things
with data



Through each stage of the information lifecycle, from design to renewal, we've delved into the intricacies of managing information effectively to maximise efficiency, compliance and value creation.


From the design phase, where organisational objectives are translated into data requirements, to the maintenance stage, where the AIM evolves in sync with the physical asset, we've seen the dynamic relationship between data, technology and operational processes. We've seen how a well-maintained AIM serves as the cornerstone for informed decision-making, risk mitigation and performance optimisation throughout the asset's lifecycle.

Crucially, we've explored the transformative potential of leveraging advanced technologies and methodologies, such as AIM CDEs and data analytics, to unlock actionable insights and drive continuous improvement. By embracing innovation and adopting best practices in information management, organisations can position themselves for sustained success in an increasingly complex and competitive landscape.

If you'd like to learn more about gliderbim® or discuss your information requirements get in touch with our expert team.

Conclusion

Get in touch

 0203 8268 001

 sales@glidertech.com

 glidertech.com

 Glider Technology Limited, Mentor House,
Ainsworth Street, Blackburn, Lancashire, BB1 6AY

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