



The missing link

BIM for Construction

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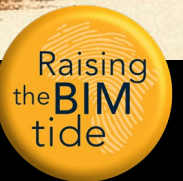
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About this
presentation



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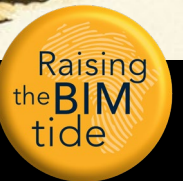
**The problem isn't too much information,
*the problem is too little structure***

BIM

A cacophony of
Information



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Hypothesis:

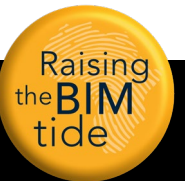
1. BIM promises a single source of truth — but in practice often delivers **fragmented silos**.
2. Geometry $\neq$ Schedule $\neq$ Cost $\neq$ Resources (they live in different tools, owned by different teams)
3. The "**dimensions**" of BIM (3D $\rightarrow$ 7D) exist in theory but rarely connect in practice

Problem Statement:

"If everything is in the model, why does nothing align?"



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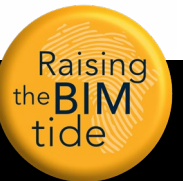
Success = Pick low-hanging fruit

1. Models provided at tender stage.
2. Models are Classified (Class, Structure, Zone etc.)
3. LOIN structured to supports resource description.
4. Models that consider Construction Work Breakdown.
5. Ability to extract resource data for models, to use in scheduling and cost estimation.
6. Pipe dream - Models that align with payment items.

3D – 4D – 5D



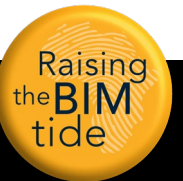
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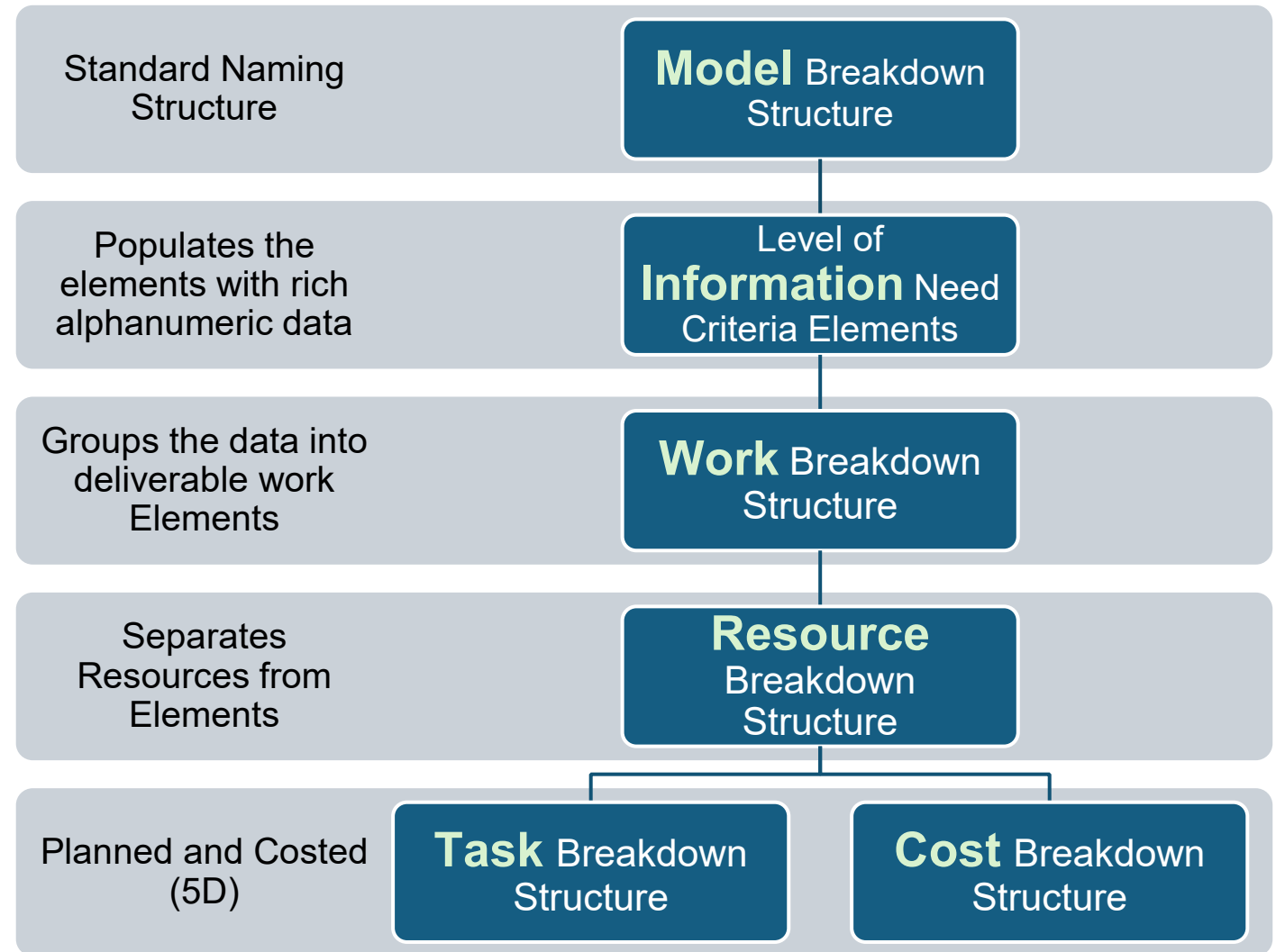
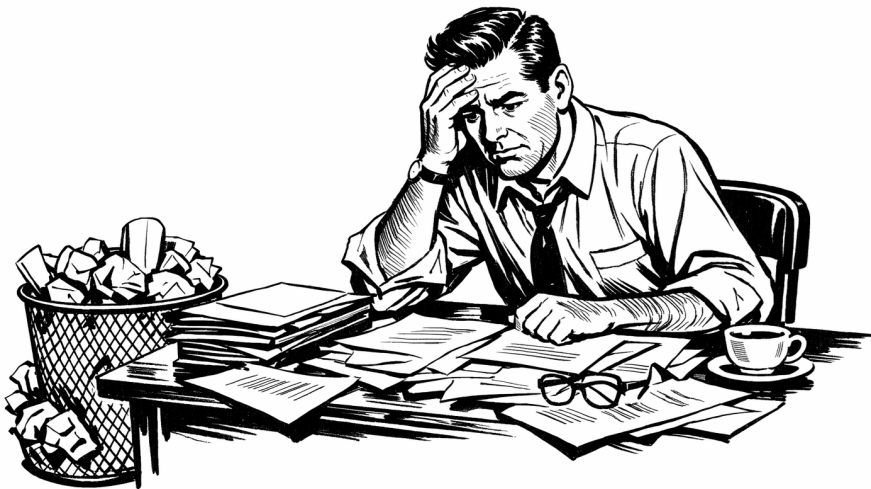
now let's break
BIM...until it works



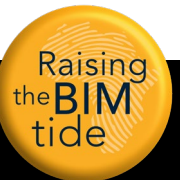
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BIM without structure is just expensive chaos — breaking it down is what transforms information into decisions.



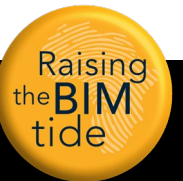
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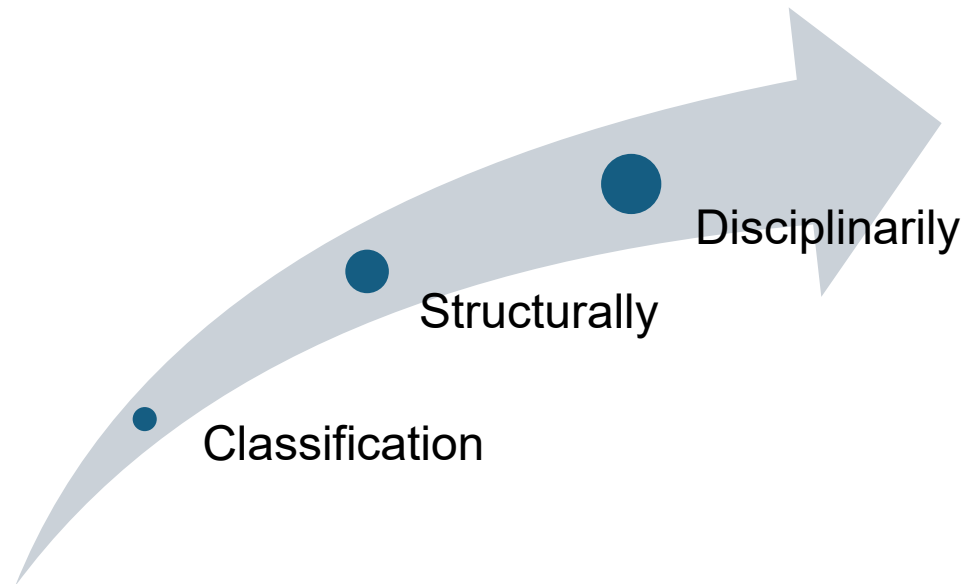
Let's Unpack

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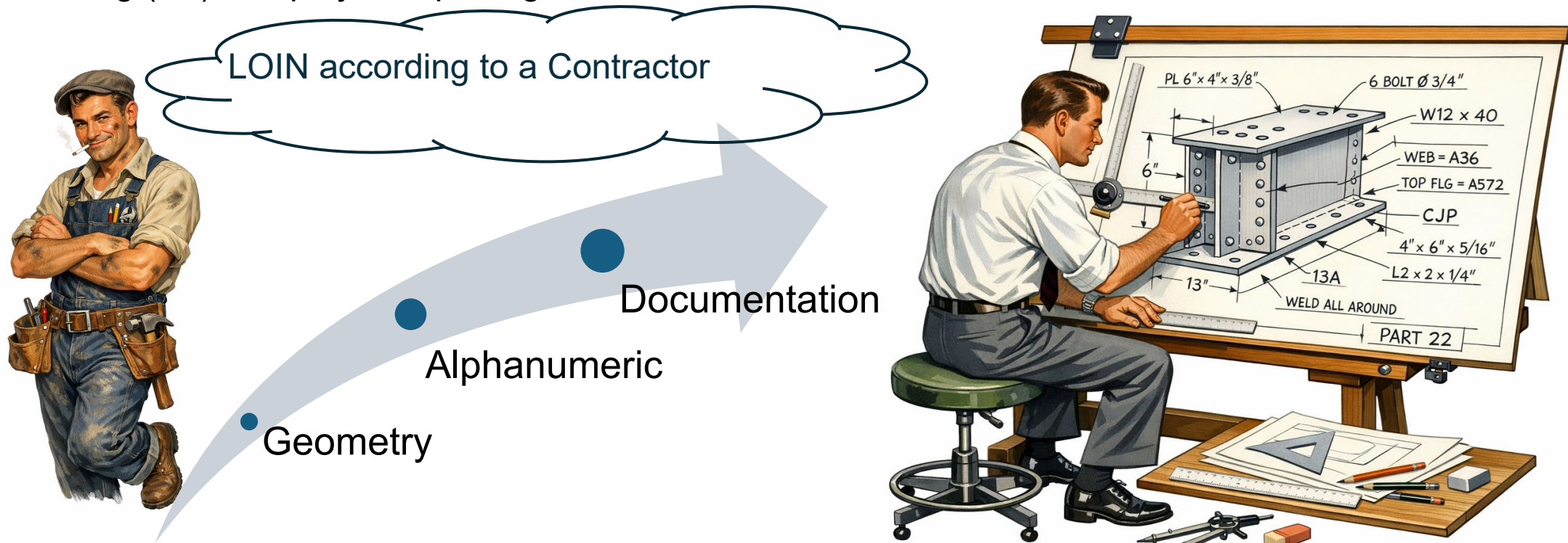
A Model Breakdown Structure answers how the model is **structured** spatially, logically, or **disciplinarily**. Zones, systems, levels, packages, model partitions etc.

Within this framework, **classification** is introduced as the standardised coding layer that gives each model segment a consistent identity across all project systems.



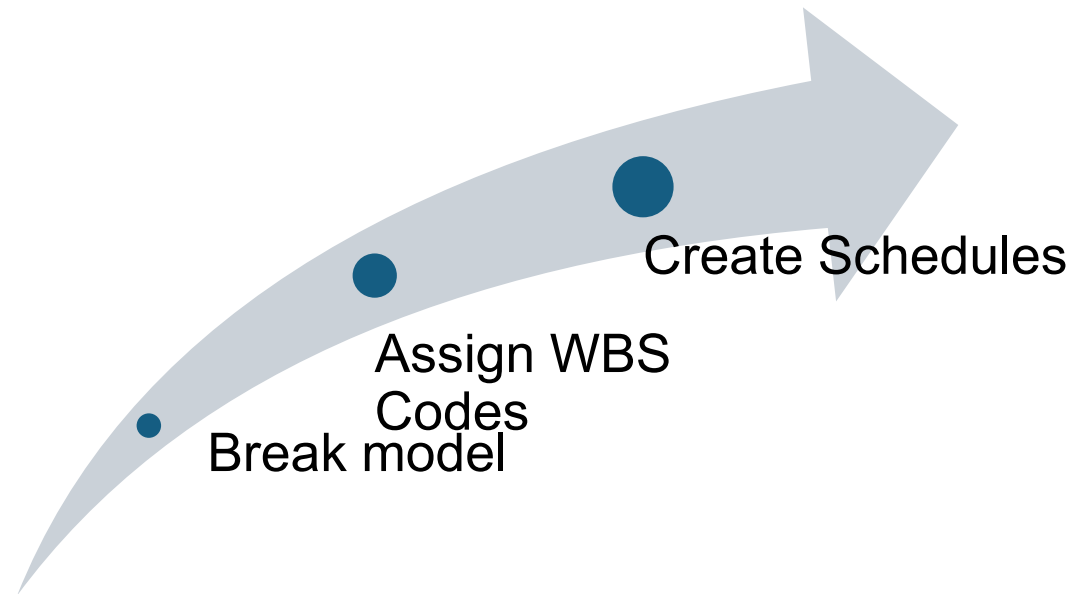
LOIN defines, among other requirements, the alphanumeric information required for each model element.

It provides the **structured data** needed to automate valuable information such as scheduling (4D), costing (5D) and project reporting.

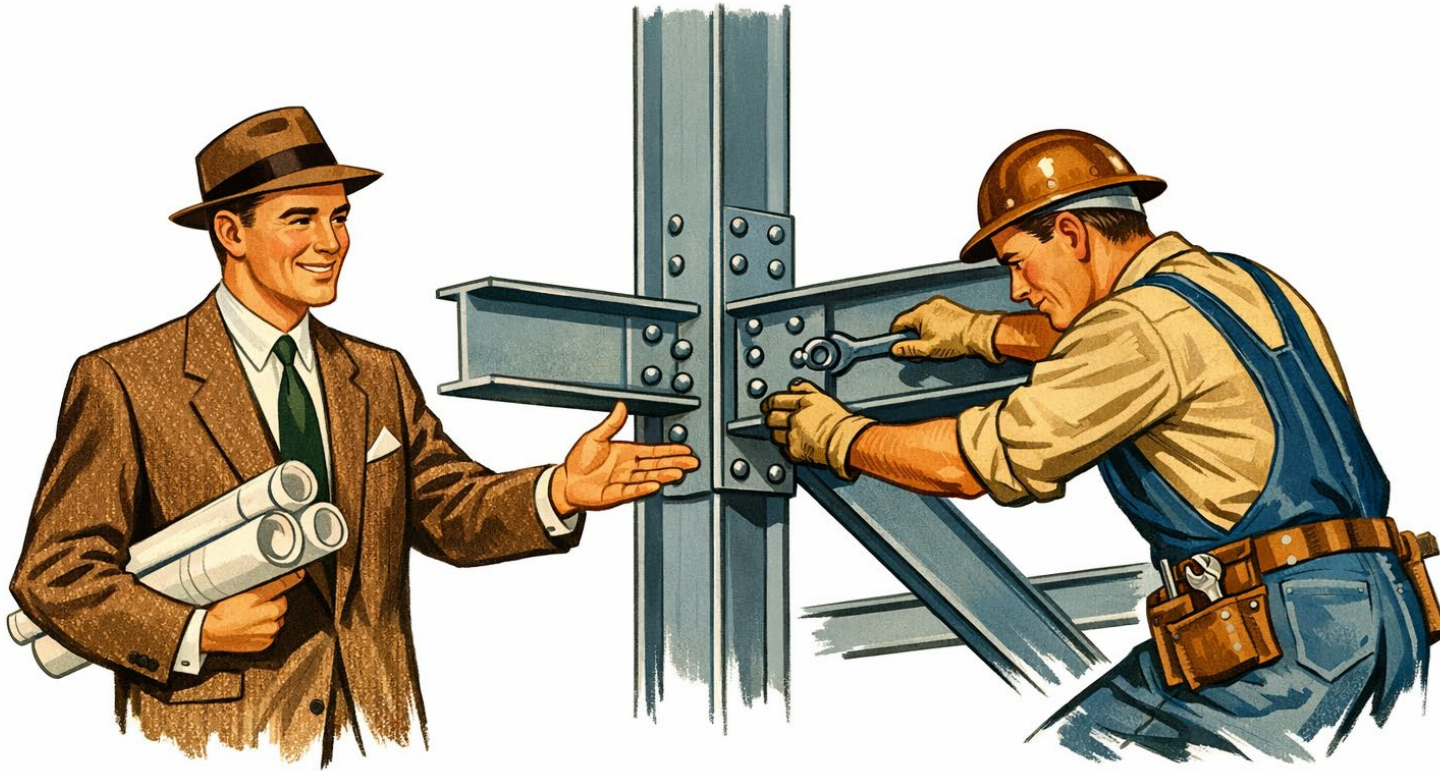


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- Break model elements into work packages such as pours, phases, zones, or sequences rather than a single monolithic element.
- Assign WBS codes as alphanumeric properties to model elements
- Link those codes to 4D schedule activities and 5D cost items.



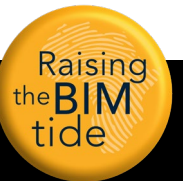
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How does this Help?

BIM for Construction

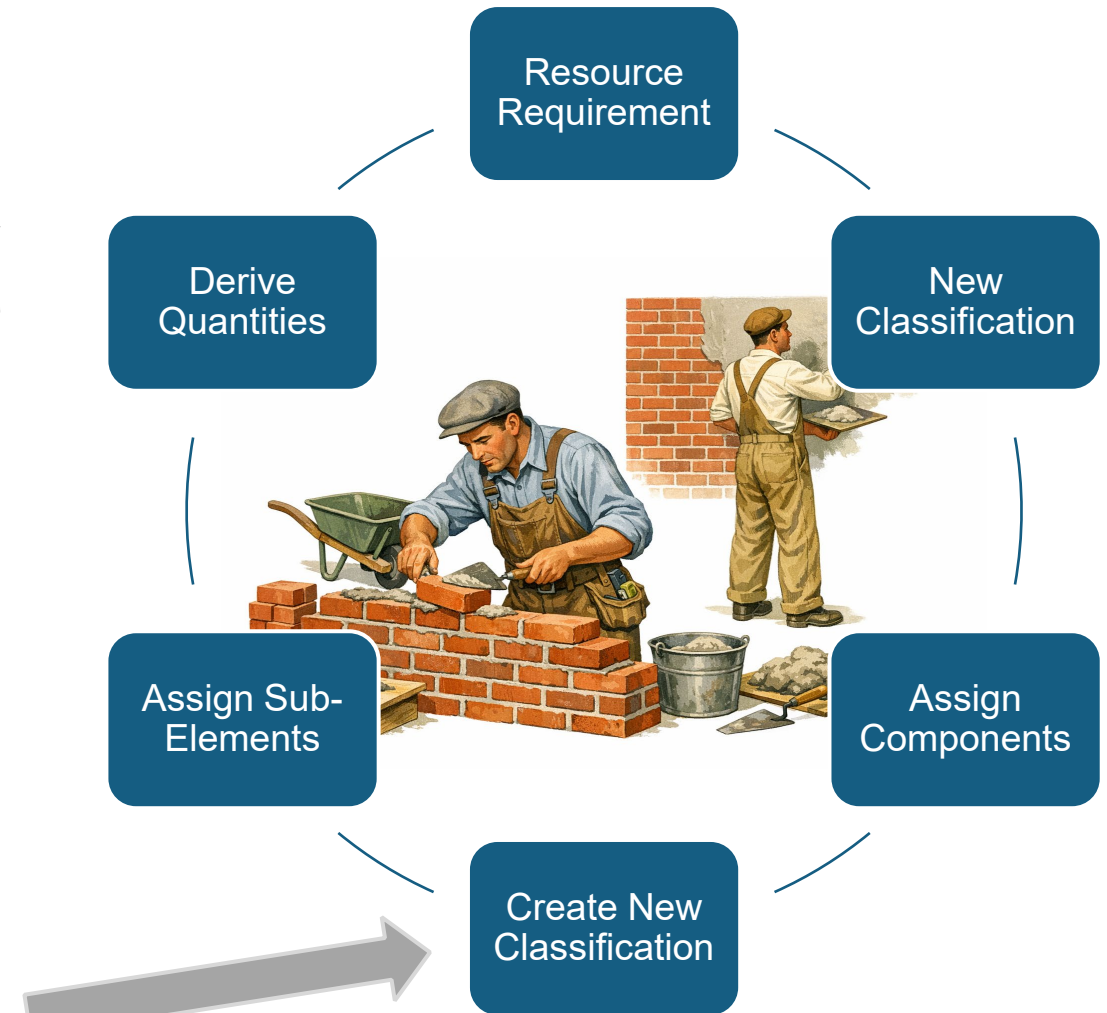
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- **Question:** What Resources are required?

Automation begins when resources are **mapped** to IFC element categories or standardized classifications. **Rule sets** can automatically assign labour, materials, plant, and equipment to model elements based on their type, allowing resources to be **grouped**, **quantified**, and managed consistently across the project.

- **Approach:** Use BIM quantity surveying software.



*Separates Brickwork and
Plaster
from a Brickwork Wall*

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- **Question:** What will it cost?

Automation begins by mapping classified model elements to BOQ payment items using rule-based workflows. Resource quantities and unit rates then generate consistent project cost.

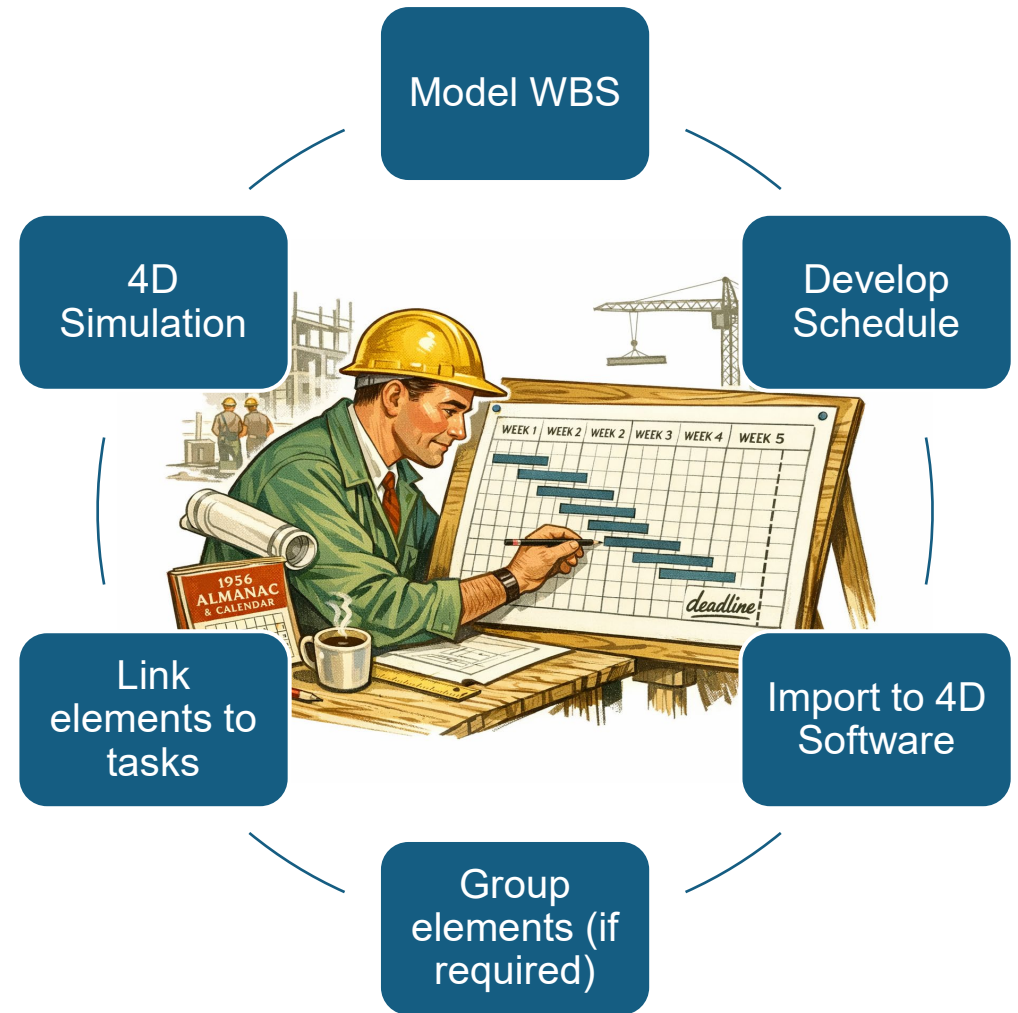
- **Approach:** Use modern 5D BIM quantity surveying software.
- **Caveat:** Pricing does not have to occur within BIM software. Quantities can be exported to Microsoft Excel or traditional estimating software for pricing and BOQ preparation.



- **Question:** How will it be built?

Automation begins by mapping classified model **elements** to programme **tasks** using rule-based workflows. Linked task durations and model elements then generate a visual **4D** construction sequence.

- **Approach:** Use conventional scheduling software together with modern 4D BIM software.
- **Caveat:** Both the model and programme must be sufficiently developed. Every work package modelled should be scheduled, and every scheduled work package should be represented in the model.



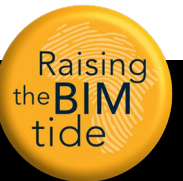
the model.

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**Why it
matters?**

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ISO 19650-2 provides the information management framework for project delivery.

- The post-appointment BEP is a key deliverable of the delivery phase.
- The BEP defines how project information will be structured, classified, managed, and exchanged.
- The BEP documents the agreed Level of Information Need (LOIN).
- This establishes a consistent information management framework.

The contractor uses this framework to:

- Cost the project
- Plan and sequence activities
- Manage project delivery

In return, the contractor provides:

- Predictable project delivery
- Fabrication and as-built information

• Structured information

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Questions



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