

# Organizational Maturity Assessment for BIM & Digital Initiatives

*Framework, Scoring Methodology and Assessment Guidance*

## HOW TO READ THIS FRAMEWORK

This framework assesses how effectively Building Information Modelling and digital initiatives are implemented and managed by an organization. Using the maturity matrix table in the Annexure A, read each capability row across all five maturity levels and select the single level that best matches current practice supported by the listed evidence. Record the level and its score in the accompanying Scoring Workbook, which computes category scores and the composite BIM Maturity Index (BMI). The relationship between these maturity levels, the Bew–Richards model and the ISO 19650 series is explained in Annexure B and is contextual only. Completing this assessment, or reaching any level or BMI, does not by itself demonstrate ISO 19650 conformity or certification.

## Abbreviations

| Abbreviation      | Meaning                                                                                                                                         |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| AI/ML             | artificial intelligence / machine learning                                                                                                      |
| BCF               | BIM Collaboration Format                                                                                                                        |
| BEP               | BIM Execution Plan                                                                                                                              |
| BIM               | Building Information Modelling                                                                                                                  |
| BIS               | Bureau of Indian Standards                                                                                                                      |
| BMI               | BIM Maturity Index                                                                                                                              |
| BRE               | Building Research Establishment                                                                                                                 |
| BSI               | British Standards Institution                                                                                                                   |
| CAD               | computer-aided design                                                                                                                           |
| CDE               | Common Data Environment                                                                                                                         |
| CMS               | Capability Maturity Score                                                                                                                       |
| EIR               | exchange information requirements                                                                                                               |
| ERP               | enterprise resource planning                                                                                                                    |
| IFC               | Industry Foundation Classes                                                                                                                     |
| IoT               | Internet of Things                                                                                                                              |
| IPD               | Integrated Project Delivery                                                                                                                     |
| ISO/IEC           | International Organization for Standardization / International Electrotechnical Commission                                                      |
| KPI               | key performance indicator                                                                                                                       |
| LOD               | Level of Detail (or Development)                                                                                                                |
| LOIN              | Level of Information Need                                                                                                                       |
| MIDP / TIDP       | Master / Task Information Delivery Plan                                                                                                         |
| MSME              | micro, small and medium enterprise                                                                                                              |
| NBC               | National Building Code of India                                                                                                                 |
| NRC               | National Research Council of Canada                                                                                                             |
| OIR               | organizational information requirements                                                                                                         |
| QA/QC             | quality assurance / quality control                                                                                                             |
| QMS               | quality management system                                                                                                                       |
| QTO               | quantity take-off                                                                                                                               |
| RACI              | responsible, accountable, consulted, informed                                                                                                   |
| RICS / ICE / IET  | professional institutions (Royal Institution of Chartered Surveyors; Institution of Civil Engineers; Institution of Engineering and Technology) |
| SOP               | standard operating procedure                                                                                                                    |
| VDC               | Virtual Design and Construction                                                                                                                 |
| VR / AR / MR / XR | virtual / augmented / mixed / extended reality                                                                                                  |
| WIP               | work in progress (a CDE information state)                                                                                                      |
| 4D / 5D           | the time and cost dimensions of BIM                                                                                                             |

## 1 Purpose and scope

The Organizational Maturity Assessment Framework is a structured, evidence-based tool for evaluating how effectively Building Information Modelling and digital ways of working are implemented and managed by an organization. It lets an organization assess its current capability in a consistent way, identify strengths and gaps, and define the actions needed to progress toward higher levels of digital integration and value.

The matrix supports three outcomes: a consistent, repeatable self-assessment; a clear diagnostic profile across all capability areas; and a single score for tracking progress over time. It is intended for low-detail organizational self-assessment and is deliberately simple enough to complete in a facilitated workshop of 60–90 minutes; more assured, verified assessments require deeper evidence work, as set out in Section 7.6.

Terminology in this framework follows the ISO 19650 series. An appointed party is any organization delivering information under an appointment; a lead appointed party coordinates a delivery team; the appointing party is the client. The framework can be used by any organization regardless of discipline or size.

## 2 How the framework is structured

The assessment matrix has two axes. The rows are Capability Sets, the functional areas that must be in place to deliver BIM well. The columns are the five Maturity Levels that describe how advanced and consistent practice is in each area. The ten capability sets are grouped into three categories, each carrying a weight used to compute the overall index:

| Category (weight)           | Capability set                           | Weight | What it measures                                                                   |
|-----------------------------|------------------------------------------|--------|------------------------------------------------------------------------------------|
| <b>Technology<br/>(30%)</b> | Software                                 | 12%    | Breadth, interoperability and openness of BIM tools                                |
|                             | Computing & Field Infrastructure         | 8%     | Fitness, availability, support and lifecycle of computing and field infrastructure |
|                             | CDE Workflow & Collaboration             | 10%    | Governed CDE workflow (states, permissions, revision) and collaboration            |
| <b>Process<br/>(45%)</b>    | Knowledge & Enabling Resources           | 8%     | Accessibility and effectiveness of knowledge and enabling resources                |
|                             | Activities, Accountability & Workflows   | 14%    | Information-management accountability and information-production workflow          |
|                             | Deliverables & Level of Information Need | 13%    | Deliverables verified to purpose-specific Level of Information Need                |
|                             | Leadership & Governance                  | 10%    | Objectives, decision rights, resources, accountability and review                  |
| <b>Policy<br/>(25%)</b>     | Education, Training & Competence         | 9%     | Activity-based competence (knowledge, skill, experience, judgement)                |
|                             | Standards, Assurance & Conformity        | 9%     | Internal standards, implementation assurance (QA/QC) and external conformity       |
|                             | Appointments & Information Obligations   | 7%     | Information obligations, EIR, liability and administration                         |

Weights reflect where BIM value is realized and where risk concentrates. Process carries the most weight (45%) because delivery workflows and deliverables are where BIM benefits materialize; Technology (30%) is the enabling foundation; Policy (25%) provides the governance that makes gains durable. These weights are provisional values set by expert judgement for this consultation release; until they are validated through pilot use and a weight-sensitivity analysis, the capability profile is the primary output, not the single index. They may be adjusted by an appointing party where a project has a specific emphasis, provided the change is documented.

## Weighting rationale and provisional status

The weights are a transparent, expert-judgement allocation, not an arbitrary choice, and follow four principles. First, value realization is weighted above enablement: capabilities where BIM value and delivery risk concentrate carry more than enabling inputs. This is why Process carries the most weight (45%), delivery workflows, deliverables and their governance are where measurable BIM benefit and information-delivery risk arise under ISO 19650-2, while Technology (30%) is the enabling foundation and Policy (25%) provides the governance that makes gains durable. Second, the capabilities that most directly carry the ISO 19650 information-delivery obligations are weighed up: Activities, Accountability & Workflows (14%) and Deliverables & Level of Information Need (13%) are the two highest, Software (12%) follows as the authoring, analysis and open-exchange backbone, and the CDE (Common Data Environment) Workflow (10%) is lifted above the purely enabling capabilities. Third, capabilities that are largely purchasable inputs or set by others sit at the lower end, Computing & Field Infrastructure (8%), which is mostly a procurable input, and Appointments & Information Obligations (7%), which are partly determined by the appointing party and the market. Fourth, guardrails keep the profile balanced: no single capability sits below 7% or above 14%, so the composite index cannot be driven by any one line, and no capability is weighted so lightly that a real weakness in it disappears into the total.

The allocation was made by expert judgement using a Delphi-style consensus, a recognized approach for weighting maturity and multi-criteria assessment models where empirical baselines do not yet exist. Because the numbers are judgement-based, they are published as provisional (Section 7.13): during the pilot they are tested through a sensitivity analysis and, if warranted, an Analytic Hierarchy Process exercise with an expert panel, and both weighted and unweighted results are reported so that no conclusion depends on the weighting alone. An appointing party may adjust the weights for a specific project emphasis, provided the change is documented.

## 3 The five maturity levels

Each capability is described across five levels. Maturity is progressive: higher levels assume the lower ones are in place.

| <b>Level</b>                                            | <b>Score</b>   | <b>Description</b>                                                                                                                          |
|---------------------------------------------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Level 0 – Initial</b>                                | <i>Score 0</i> | <i>Capability is absent, fragmented or dependent on individual effort; required controls and evidence are not established.</i>              |
| <b>Level 1 – Defined</b>                                | <i>Max 10</i>  | <i>A basic intended way of working is documented or established locally, but implementation and control are inconsistent.</i>               |
| <b>Level 2 – Managed (implemented &amp; controlled)</b> | <i>Max 20</i>  | <i>Relevant processes, responsibilities and resources are implemented across the declared scope; compliance and exceptions are managed.</i> |
| <b>Level 3 – Integrated (integrated &amp; measured)</b> | <i>Max 30</i>  | <i>Capability is integrated across relevant functions and projects; performance, outcomes and risks are measured and reviewed.</i>          |
| <b>Level 4 – Optimized (continually improved)</b>       | <i>Max 40</i>  | <i>Evidence, trend data, lessons and changing organizational need are used to improve capability systematically.</i>                        |

The relationship between the maturity levels in this framework, the historical Bew–Richards BIM maturity model and the ISO 19650 series is explained in Annexure B. The cross-references are contextual and do not establish direct equivalence, conformity or certification.

## 4 The scoring method, step by step

The scoring is deliberately straightforward. Anyone can complete it with this guidance, the Annexure matrix table and the Scoring Workbook. There are five steps.

- Step 1 - Read the row.** Read the full capability row across all five levels before deciding. Do not read down a single column.
- Step 2 - Choose the level (0–4).** Select the single highest level for which both the described practice AND its listed evidence are genuinely in place across your projects. Apply the progressive rule: you cannot claim a level unless the level before it is at least partially achieved.
- Step 3 - Judge full or partial.** Decide whether that level is FULLY achieved (consistent across projects) or only PARTIALLY achieved (in place but inconsistent, i.e. you are moving toward the next level). Record the objective evidence you relied on. *Record PARTIAL only where the next level's foundational criteria are met and implementation has demonstrably started, but its coverage, control or effectiveness is still incomplete, and note which criteria are unmet. A policy, template or procedure on its own evidences no more than Level 1 (Defined).*
- Step 4 - Compute the capability score (CMS).** The Capability Maturity Score is:  $CMS = (\text{level} \times 10) + 5$  if the next level is partially achieved. This gives a value from 0 to 40 in five-point steps (0, 5, 10, 15, 20, 25, 30, 35, 40).
- Step 5 - Let the workbook total it.** Enter each level and full/partial judgement in the Scoring Workbook. It automatically weights the capabilities, produces a score out of 100 for each category, and combines them into the composite BIM Maturity Index (BMI).

### The formulas in plain terms

$CMS (\text{per capability, } 0\text{--}40) = \text{level} \times 10 + 5$  if the next level is partially achieved.

$\text{Weighted contribution} = (CMS \div 40) \times \text{capability weight}.$

$BIM \text{ Maturity Index (BMI, } 0\text{--}100) = \text{the sum of all ten weighted contributions (the weights add up to } 100\%).$

$\text{Category score (} 0\text{--}100) = (\text{sum of that category's contributions} \div \text{category weight}) \times 100.$

### Turning the index back into a level

The BMI maps onto the same 0–4 scale using these bands:

| BMI range     | Overall maturity level |
|---------------|------------------------|
| 0 – 20        | Level 0 – Initial      |
| over 20 – 40  | Level 1 – Defined      |
| over 40 – 60  | Level 2 – Managed      |
| over 60 – 80  | Level 3 – Integrated   |
| over 80 – 100 | Level 4 – Optimized    |

### The balance rule

A high overall score built on very uneven capabilities is not genuine maturity: a weak area (for example, no contracts or no standards) will undermine strong ones. The reported overall level is therefore capped at one level above the weakest category. The workbook shows both the raw BMI level and this balance-constrained level, so an unbalanced profile cannot overstate maturity.

## 5 Worked example

The table below shows a complete assessment for a mid-sized appointed party. It uses the same example values that are pre-filled in the Scoring Workbook, so you can reproduce every number.

| <i>Capability</i>                                   | <i>Wt.</i> | <i>Level</i> | <i>Full/Partial</i> | <i>CMS</i> | <i>Contribution</i> |
|-----------------------------------------------------|------------|--------------|---------------------|------------|---------------------|
| <b>Software</b>                                     | 12%        | 2            | Full                | 20         | 6.000               |
| <b>Computing &amp; Field Infrastructure</b>         | 8%         | 1            | Partial             | 15         | 3.000               |
| <b>CDE Workflow &amp; Collaboration</b>             | 10%        | 2            | Full                | 20         | 5.000               |
| <b>Knowledge &amp; Enabling Resources</b>           | 8%         | 1            | Full                | 10         | 2.000               |
| <b>Activities, Accountability &amp; Workflows</b>   | 14%        | 2            | Partial             | 25         | 8.750               |
| <b>Deliverables &amp; Level of Information Need</b> | 13%        | 1            | Full                | 10         | 3.250               |
| <b>Leadership &amp; Governance</b>                  | 10%        | 2            | Full                | 20         | 5.000               |
| <b>Education, Training &amp; Competence</b>         | 9%         | 1            | Partial             | 15         | 3.375               |
| <b>Standards, Assurance &amp; Conformity</b>        | 9%         | 2            | Full                | 20         | 4.500               |
| <b>Appointments &amp; Information Obligations</b>   | 7%         | 1            | Full                | 10         | 1.750               |
| <b>Composite BIM Maturity Index (BMI)</b>           |            |              |                     |            | <b>42.6</b>         |

### Reading the result

- **Category scores.** Technology score = 46.7/100 (Level 2); Process = 42.2/100 (Level 2); Policy = 38.5/100 (Level 1).
- **Composite index.** BMI = 42.6, which falls in the 40–60 band, i.e. Level 2 – Managed.
- **Balance check.** Policy is the weakest category at Level 1. The balance rule caps the overall level at one above the weakest = Level 2. Here the raw level (2) already equals that cap, so the reported overall maturity is Level 2 – Managed.
- **What to do next.** Appointments, Knowledge Resources and Deliverables are the lowest capabilities. These are the first places to invest, for example, introducing detailed information obligations and an EIR (exchange information requirements) would move Appointments & Information Obligations from Level 1 to Level 2 and lift both the Policy score and the overall index.

## 6 Interpreting results and planning improvement

The composite index is a benchmark for tracking progress and comparing comparable organizations. The per-capability profile, not the single number, remains the primary basis for improvement. Use the results to:

- Compare capabilities within each category and identify weak areas that limit overall BIM performance.
- Prioritize improvements using the multi-factor method in Section 7 (maturity gap, business criticality, risk exposure, dependency, implementation effort and expected benefit).
- Plan concrete steps from one level to the next, each with an owner, a target date and the evidence that will demonstrate achievement.
- Re-assess on the cycle and change-control rules in Section 7 to confirm interventions are working.

Avoid over-reading a single figure. Two organizations with the same BMI can have very different profiles and therefore very different priorities. Always keep the descriptive levels and evidence as the basis of the conversation.

## 7 Governance, application, assurance and framework control

This section defines how the framework is applied, evidenced, governed and released. It applies to every use of the framework.

### 7.1 Capability-led maturity

Maturity in this framework means the organization's ability to define, implement, control, measure and improve relevant capability, not the novelty of its technology. Higher levels therefore depend on consistent implementation, control and measured effectiveness, applied proportionately to role and appointment.

Emerging technologies are conditional examples, not maturity gates. Where advanced tools (for example AI/ML, digital twins, immersive XR, blockchain) appear in the descriptors, they illustrate possible higher-maturity practice only where relevant to the organization's need, risk, interoperability and value. The organization evaluates such technologies against defined need and records both adoption and non-adoption decisions; not adopting a technology that is unnecessary for its role is not a maturity deficiency.

The ten capability rows in the Annexure are written around this common logic, spanning computing-and-field-infrastructure, CDE-workflow, knowledge-resources, activities-and-accountability, deliverables (Level of Information Need), leadership-and-governance, competence, standards-and-assurance and appointment-obligation constructs. Their weightings and inter-assessor calibration are confirmed through the pilot before formal publication.

### 7.2 Assessment applications

The matrix has one core use - organizational self-assessment - and two governed extensions. The judgement owner differs in each, and the result must be labelled accordingly.

| <b>Application</b>                                       | <b>Who owns the judgement</b>                                                                    | <b>Result label</b>                                |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------|
| <i>Self-assessment</i>                                   | <i>The organization determines and owns the score.</i>                                           | <i>Self-declared.</i>                              |
| <i>Facilitated self-assessment</i>                       | <i>A competent facilitator structures and challenges; the organization still owns the score.</i> | <i>Facilitated, self-declared.</i>                 |
| <i>Appointing-party evaluation (separately governed)</i> | <i>An appointing party evaluates a prospective or existing appointed party.</i>                  | <i>Second-party evaluation; not certification.</i> |

Appointing-party evaluation is enabled only if IBIMA elects to enable it. Where used, the evaluation scope, evidence requirements, scoring authority, confidentiality and permitted use of results shall be defined in advance, and it shall not be presented as equivalent to a self-assessment or to independent certification.

### 7.3 Assessment scope statement

A score is interpretable only where the assessed boundary is recorded. Before scoring, the assessment shall record: the organizational unit assessed; the ISO 19650 role; the services and disciplines; the lifecycle phase; geographical and contractual coverage; the evidence period; the representative project sample; and any exclusions. The final report shall reproduce this scope statement; a score shall not be reported without it.

### 7.4 Applicability of criteria

Not every criterion is equally applicable to every organization. Each criterion is classified as universal (relevant to all), role-dependent (applies where the organization performs that role), or appointment-dependent (applies where required by the appointment or information requirements). A criterion may be recorded as not applicable only where non-applicability is justified, documented and reviewed by the assessment lead, and the effect on the score is transparently reported. A criterion is not “not applicable” merely because it is unimplemented, unavailable, costly or unfamiliar, those indicate a capability gap. Universal criteria should not ordinarily be excluded.

### 7.5 Proportionality

Proportionality does not mean lowering maturity expectations because an organization is small. It means that the scale, formality and evidence of implementation are appropriate to the organization’s role, appointment, service, project scale, complexity, information risk and consequences of failure. The underlying capability outcome should remain consistent, while the method and scale through which it is achieved may vary. Both a small specialist contractor and a large lead appointed party require controlled information exchange; they may evidence it at very different scales. Appointing parties should apply the matrix proportionately when setting expectations for smaller suppliers.

### 7.6 Evidence and assurance

Evidence shall be current, attributable, relevant to the declared scope and representative of actual practice. Four evidence layers are distinguished; a template or procedure on its own supports no more than the Defined layer.

| <b>Evidence layer</b>                                                         | <b>What it proves</b>              |
|-------------------------------------------------------------------------------|------------------------------------|
| <i>Defined - policies, standards, procedures, templates</i>                   | <i>Intent only.</i>                |
| <i>Implemented - project records, information containers, CDE logs</i>        | <i>The practice is used.</i>       |
| <i>Controlled - QA reports, approvals, rejection logs, corrective actions</i> | <i>Management control.</i>         |
| <i>Effective - trend data, reduced rejection, lessons implemented</i>         | <i>Demonstrated effectiveness.</i> |

Assessment should triangulate documents, interviews, live demonstration, representative project and information-container sampling, and performance data - and should examine exceptions, failures and corrective actions, not only good examples. Each finding should carry an evidence-confidence rating (high / medium / low) based on recency, coverage, triangulation and any contradictions.

A 60–90-minute workshop supports preliminary or facilitated self-assessment (screening), not an audit-ready or independently verified conclusion. A verified assessment requires prior evidence submission, representative sampling, interviews, live demonstration, system records and documented findings, performed by a competent assessor. Results shall be labelled with the assurance level used. This framework does not, in any mode, constitute certification.

Every level claimed should be supported by the evidence listed in the matrix. Where practice sits between two levels, choose the lower level unless there is strong, consistent evidence for the higher one.

## 7.7 Who leads the assessment

The assessment shall be conducted by a competent panel whose members collectively cover the competencies needed. Between them, the panel should bring: (a) BIM and information management, demonstrable knowledge of ISO 19650, information-management workflows and open data exchange; (b) organizational maturity and assessment competence, the ability to plan an assessment's scope, gather and triangulate evidence, apply maturity criteria consistently, and reach objective, defensible judgements rather than opinion; and (c) real insight into the organization's systems, delivery context and culture. Distributing these across the panel is deliberately more robust than tasking a single person, and it reduces individual bias.

These competencies may be evidenced, across the panel, by recognized credentials, for the BIM and information-management side, ISO 19650 individual certification (the Project or Task Information Management Practitioner, or the BIM Informed Professional pathway) or the BuildingSMART Professional Certification (Foundation or Practitioner, certified to ISO/IEC 17024); and for the assessment side, assessment, audit or maturity-assessment experience (for example a lead-assessor or auditing background consistent with ISO 19011). Equivalent qualifications, relevant professional membership (for example RICS, ICE, IET or an equivalent institution) and a verifiable track record are equally acceptable; formal certification is not mandatory where equivalent competence can be demonstrated, so that capable professionals are not excluded while the individual-certification ecosystem matures in India. The panel is chaired by a competent lead who plans the assessment, challenges unsupported claims, applies the evidence rules in Section 7.6, and records the findings and their evidence-confidence rating.

The panel is best formed as a facilitated group of three to eight people drawn from across roles, disciplines and seniority, typically spanning information management, design, construction and delivery, IT, and senior management, so that evidence is triangulated and no single viewpoint dominates. The competence and independence required scale with the assurance level (Section 7.6): a self-assessment or facilitated self-assessment is carried out by the organization itself, through its own internal panel (in the facilitated case, supported by an external facilitator who structures and challenges but does not own the score). A verified assessment, or any appointing-party evaluation used in procurement, should instead be conducted by, or include, a suitably qualified, independent assessor whose competence, impartiality and method are consistent with ISO/IEC 17024 and ISO 19011. Where a result may influence appointment or procurement decisions, the composition, competence and independence of the panel or assessor shall be recorded.

## 7.8 Comparability of results

The BIM Maturity Index supports internal baselining, comparison between capability areas, reassessment of the same scope and longitudinal tracking. Cross-organizational comparison is indicative only, and should be undertaken solely where role, services, assessed boundary, lifecycle phase, assessment application, evidence threshold, sampling method, applicability profile, scoring and weighting method, framework version and assessor conditions are demonstrably comparable. The BMI shall not be described as a national benchmark until a representative, calibrated dataset exists.

## 7.9 Improvement prioritization

Improvement priorities shall not be set by lowest score alone. They shall consider the maturity gap, business criticality, risk exposure, dependency on other improvements, implementation effort and feasibility, and expected benefit.

## 7.10 Reassessment and change control

Re-assess every 6–12 months, or at key project milestones, and keep prior results so trends in the BMI and in each capability can be seen over time.

At each reassessment the report shall record any change in organizational boundary, role, services, project sample, lifecycle coverage, assessment mode, criteria applicability, evidence threshold, capability weights or framework version. A change in the BMI shall not be attributed to improved or reduced capability where the assessment conditions have materially changed.

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### 7.11 Framework governance

The framework owner (India BIM Association) shall maintain named ownership and an approval body, version control, scheduled technical review, a change-request route, assessor requirements, a complaints-and-appeals process, confidentiality arrangements, and rules for the use of IBIMA branding and of assessment results. Permitted result claims shall be stated and enforced.

### 7.12 Standards edition control

This framework has been developed with reference to the published standards and editions recorded in the document-control register. Detailed clause mappings are edition-specific and are held in the dated clause basis at Annexure B; the main maturity language is kept edition-neutral. Where a referenced ISO or national standard is amended, revised, replaced or withdrawn, IBIMA shall review the affected terminology, responsibilities, maturity descriptors, evidence requirements, appendices and workbook logic before confirming continued applicability. Draft standards may inform development but shall not be treated as normative requirements until formally published and adopted.

### 7.13 Release status

This edition is issued as Version 1.0 (Consultation). Before formal national publication it will be piloted across design and engineering consultancies, contractors and lead appointed parties, and specialist contractors, suppliers and MSMEs, with at least two assessors independently scoring a common evidence pack to test inter-assessor consistency, and with a weight-sensitivity analysis. The BIM Maturity Index will not be presented as ISO 19650 conformity, an audit-ready result or a national benchmark until that validation is complete.

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## 8 Attribution, adaptation and references

### 8.1 Statement of original development

This Organizational Maturity Assessment Framework is an original adaptation and substantial extension prepared for publication by the India BIM Association (IBIMA). While the high-level capability-and-maturity structure builds on established international work (see 8.2), the following elements represent original development undertaken for this framework:

- a three-tier weighting model (Technology 30% / Process 45% / Policy 25%) with a defined weight for each of the ten capability sets;
- a weighted composite BIM Maturity Index (BMI, 0–100) with defined interpretation bands mapped back onto Levels 0–4;
- an evidence-anchored, partial-credit scoring method (the Capability Maturity Score, CMS) that replaces flat level scoring;
- a balance rule that caps the reported overall level at one level above the weakest category, preventing an uneven profile from overstating maturity;
- an 'evidence-to-verify' descriptor written for every capability at every level, enabling objective, evidence-based assessment;
- explicit cross-mapping to the ISO 19650 series and the Bew–Richards levels, and India-specific calibration including proportionality guidance for MSMEs; and
- the accompanying Scoring Workbook that automates the calculations.

### 8.2 Methodological basis and licence

The underlying capability-set and five-level maturity structure is adapted from the BIM Maturity Matrix (Blm<sup>3</sup>) developed by Dr Bilal Succar and the BIMe Initiative (BIMexcellence.org). The Blm<sup>3</sup> matrix document (2016) is released under a Creative Commons Attribution–NonCommercial–ShareAlike licence (CC BY-NC-SA 3.0), and the related BIM ThinkSpace articles drawn upon (Episodes 25 and 28) under CC BY-NC-SA 4.0. Adapting and building upon this material is expressly permitted by those licences. In keeping with them, this document (a) gives appropriate credit to the original author and initiative and indicates that changes were made, (b) is intended for non-commercial, public-benefit use, and (c) is itself distributed under CC BY-NC-SA 4.0 (ShareAlike), which those licenses permit as the same or a later compatible version. The framework's

methodological position relative to this source and the wider landscape of BIM maturity, capability and performance models is set out in Annexure B (see B.3).

**Permitted use.** This framework is published for non-commercial; public-benefit use and is distributed under the CC BY-NC-SA 4.0 license (ShareAlike). Any commercial use, any paid assessment or certification service, or any use of the underlying BIME matrix to assess third parties, requires separate permission from the respective rights holders.

### 8.3 Supporting sources informing the enhancements

The scoring and competence enhancements were informed by the following works, which are gratefully acknowledged:

- BIME Initiative - Organization BIM Maturity Assessment (Blm<sup>3</sup>). <https://bimexcellence.org/>
- Scottish Futures Trust - BIM Portal / information-management guidance (reference for structured assessment). <https://bimportal.scottishfuturestrust.org.uk/>
- BIM ThinkSpace, Episode 25 - Redefining Competence (Integrated Competence Model: Knowledge, Skill, Experience, plus intelligence and attitude).

### 8.4 Standards and foundational references

Bureau of Indian Standards — National Building Code of India (NBC) 2016.

Bew, M. & Richards, M. (2008). BIM Maturity Model (Levels 0–3).

Succar, B., Sher, W., & Williams, A. (2012). Measuring BIM performance: five metrics. *Architectural Engineering and Design Management*, 8(2), 120–142.

ISO 19650-1:2018 and ISO 19650-2:2018 - Organization and digitization of information about buildings and civil engineering works, including BIM - Information management using BIM (adopted in India within the IS/ISO 19650 family by the Bureau of Indian Standards).

Succar, B. (2010). Building Information Modelling maturity matrix. In *Handbook of Research on BIM and Construction Informatics: Concepts and Technologies*. IGI Global.

### 8.5 Standards copyright acknowledgement (ISO 19650 / BIS)

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## Annexure A — BIM Maturity Assessment Matrix Table

Score each capability row using the method in Section 4, then record the levels and scores in the accompanying Scoring Workbook.

| Capability Set                                                                                                                                                                                                                                                                   | Level 0 – Initial                                                                                                                                                                                                                                                                                                                                                                    | Level 1 – Defined                                                                                                                                                                                                                                                                                                                                                                                                             | Level 2 – Managed                                                                                                                                                                                                                                                                                                                                                                                                                                      | Level 3 – Integrated                                                                                                                                                                                                                                                                                                                                                              | Level 4 – Optimized                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| <b>TECHNOLOGY: Digital tools &amp; infrastructure</b>                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Software</b><br><b>Weight: 12%</b><br>Capability to select, govern and improve authoring, coordination and open-data-exchange tools appropriate to information requirements (open formats such as IFC, BCF and COBie). Technology examples are conditional on need and value. | Software use is ad-hoc and unregulated. 3D is used only to produce 2D; models are not structured for downstream uses. No defined data-exchange standards; frequent interoperability failures.<br><b>KPI:</b> No defined toolset or exchange formats; no BIM-based deliverables.<br><b>Evidence:</b> No software register; per-project tools; no common template; no IFC/BCF exports. | A standard toolset and local data-management procedures (storage, naming, formats) are defined, and interoperable formats (IFC, BCF, COBie) are identified. Application is inconsistent across teams.<br><b>KPI:</b> Documented software standard exists; some open-format exchange; most deliverables from models.<br><b>Evidence:</b> Approved tool list; template models; sample IFC/BCF exchange on at least one project. | Software selection and deployment are implemented and controlled to defined objectives across the declared scope. Models are the primary source for drawings, quantities and analysis; open-format exchange is mandated and monitored.<br><b>KPI:</b> Deliverables traced to models; open-format exchange logged and checked across projects.<br><b>Evidence:</b> Organization software policy; QTO/analysis traced to models; reviewed exchange logs. | Tool capability is integrated with enterprise information flows (cost, schedule, asset systems) and measured for performance and interoperability across projects.<br><b>KPI:</b> Interoperable exchange and integration performance measured and reviewed.<br><b>Evidence:</b> Documented information strategy; integration records; measured exchange/interoperability metrics. | Tooling and data exchange are continually improved from performance data and evolving need. Emerging technologies (e.g., automation, AI/ML) are evaluated against need, risk, interoperability and value, with adoption and non-adoption decisions recorded.<br><b>KPI:</b> Improvement actions driven by data; documented adoption / non-adoption decisions.<br><b>Evidence:</b> Improvement register; technology-evaluation records; productivity metrics tied to changes. |
| <b>Selected level &amp; score</b>                                                                                                                                                                                                                                                | <b>□ 0</b>                                                                                                                                                                                                                                                                                                                                                                           | <b>□ 10</b>                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>□ 20</b>                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>□ 30</b>                                                                                                                                                                                                                                                                                                                                                                       | <b>□ 40</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Computing &amp; Field Infrastructure</b><br><b>Weight: 8%</b><br>Capability to specify, provide, maintain, support and renew reliable infrastructure appropriate to defined BIM uses and user roles. Ownership of                                                             | Infrastructure is inadequate or unsuitable for the required BIM uses; fixes are reactive; performance failures are common.<br><b>KPI:</b> No infrastructure specification; frequent failures and long processing times.                                                                                                                                                              | Infrastructure requirements and a specification for BIM uses are defined and budgeted; provision is inconsistent.<br><b>KPI:</b> A workstation/device specification exists; partial compliance.                                                                                                                                                                                                                               | Suitable infrastructure is implemented, maintained and supported across the scope; availability and reliability are managed; field devices are provided where the appointment requires them.<br><b>KPI:</b> Availability/downtime managed to target; support                                                                                                                                                                                           | Infrastructure fitness, capacity and utilization are integrated with delivery needs and measured; lifecycle planning is reviewed.<br><b>KPI:</b> Utilization and reliability measured; lifecycle plan reviewed against need.                                                                                                                                                      | Infrastructure is continually improved from performance and utilization data. Emerging solutions are evaluated against need and value, with adoption and non-adoption recorded.<br><b>KPI:</b> Improvement driven by data; no delays attributable to                                                                                                                                                                                                                         |

|                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                     |
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| advanced equipment is not, by itself, maturity.                                                                                                                                                                                                                                                         | <b>Evidence:</b> No specification; performance complaints; replacement only on failure.                                                                                                                                                                                                                    | <b>Evidence:</b> Documented specification; procurement records against spec; refresh intent.                                                                                                                                                                                                                                                                 | arrangements in place; field teams equipped where needed.<br><b>Evidence:</b> Asset register; maintenance and support records; downtime log; field-device inventory.                                                                                                                                                                                                                                                                         | <b>Evidence:</b> Utilization/reliability metrics; lifecycle and capacity plan; investment linked to need.                                                                                                                                                                                                                                                                                         | infrastructure; adoption/non-adoption recorded.<br><b>Evidence:</b> Improvement records; evaluation notes; real-time performance monitoring where justified.                                                                                                                                                        |
| <b>Selected level &amp; score</b>                                                                                                                                                                                                                                                                       | □ 0                                                                                                                                                                                                                                                                                                        | □ 10                                                                                                                                                                                                                                                                                                                                                         | □ 20                                                                                                                                                                                                                                                                                                                                                                                                                                         | □ 30                                                                                                                                                                                                                                                                                                                                                                                              | □ 40                                                                                                                                                                                                                                                                                                                |
| <b>CDE Workflow &amp; Collaboration</b><br><b>Weight: 10%</b><br>Capability to manage information through controlled states, permissions, review, authorization, revision and traceable exchange using an appropriate solution. The governed workflow is assessed separately from platform performance. | Information exchange is uncontrolled or fragmented; the current status of information cannot be reliably confirmed.<br><b>KPI:</b> No CDE workflow; confirming current status requires manual RFIs.<br><b>Evidence:</b> Files on email/USB/local drives; no version control; duplicate/uncontrolled files. | A basic CDE workflow and conventions are defined at project level (states, naming, permissions) and an appropriate solution is identified; controls and application vary by team.<br><b>KPI:</b> Each project uses a basic repository with a draft procedure.<br><b>Evidence:</b> Folder/state structure; draft CDE procedure; informal access arrangements. | A controlled CDE workflow is implemented across the scope - information states (WIP/Shared/Published/Archive), permissions, review, authorization, revision and traceable exchange - supported by an appropriate solution.<br><b>KPI:</b> Information states and approvals enforced; access controlled; version history maintained.<br><b>Evidence:</b> documented CDE procedure; access-control matrix; state-transition and approval logs. | The CDE workflow is integrated across disciplines and functions; compliance, exceptions and performance are measured and reviewed, with supporting-solution performance monitored separately.<br><b>KPI:</b> Workflow compliance and exceptions measured; solution availability against targets.<br><b>Evidence:</b> Audit trail of exchanges; exception and performance records; access reviews. | Workflow, controls and user behavior are continually improved from trend and failure data over repeated review cycles.<br><b>KPI:</b> Improvement driven by recurring-defect and feedback data; near-zero uncontrolled exchange.<br><b>Evidence:</b> Improvement register; updated procedure; stakeholder feedback. |
| <b>Selected level &amp; score</b>                                                                                                                                                                                                                                                                       | □ 0                                                                                                                                                                                                                                                                                                        | □ 10                                                                                                                                                                                                                                                                                                                                                         | □ 20                                                                                                                                                                                                                                                                                                                                                                                                                                         | □ 30                                                                                                                                                                                                                                                                                                                                                                                              | □ 40                                                                                                                                                                                                                                                                                                                |
| <b>PROCESS: People, workflows &amp; deliverables</b>                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                     |
| <b>Knowledge &amp; Enabling Resources</b><br><b>Weight: 8%</b><br>Capability to make knowledge and enabling resources accessible, maintained, owned and demonstrably used, through physical, digital or hybrid arrangements. Physical premises are not required for maturity.                           | No structured approach; BIM knowledge is tacit and individual; resources are not treated as assets.<br><b>KPI:</b> No knowledge base; no accessible shared resources.<br><b>Evidence:</b> No repository; knowledge held by individuals only.                                                               | Knowledge and enabling resources are recognized; basic capture and sharing are defined (guidelines, a shared space - physical, digital or hybrid); use is inconsistent.<br><b>KPI:</b> Initial guidelines exist; at least one knowledge-sharing route in use.                                                                                                | Knowledge and resources are implemented and maintained across the scope - accessible, owned and demonstrably used (repository, templates, lessons learned) - through physical, digital or hybrid arrangements.<br><b>KPI:</b> Maintained, indexed knowledge base is used by all projects; teams contribute at closeout.                                                                                                                      | Knowledge and resources are integrated with delivery and measured for accessibility, use and effectiveness; they are reviewed and improved, with clear ownership.<br><b>KPI:</b> Retrieval/use measured; periodic review; specialist ownership.                                                                                                                                                   | Knowledge and resources are continually improved from feedback and effectiveness data; retrieval and reuse are enhanced (including assisted search where useful).<br><b>KPI:</b> Improvement tied to effectiveness; high engagement with the knowledge system.                                                      |

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|                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                        | <b>Evidence:</b> Written guidelines/tips; a collaboration arrangement; session notes.                                                                                                                                                                                                                                     | <b>Evidence:</b> KM system/repository; template & standards library; close-out lessons captured.                                                                                                                                                                                                                                                                                                                                               | <b>Evidence:</b> Usage metrics; review records; searchable enterprise knowledge base.                                                                                                                                                                                                                                                                                               | <b>Evidence:</b> Improvement log; engagement data; strategic review outputs.                                                                                                                                                                                                                                                                                                                                                  |
| <b>Selected level &amp; score</b>                                                                                                                                                                                                                                                       | <b>□ 0</b>                                                                                                                                                                                                                                                                                                             | <b>□ 10</b>                                                                                                                                                                                                                                                                                                               | <b>□ 20</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>□ 30</b>                                                                                                                                                                                                                                                                                                                                                                         | <b>□ 40</b>                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Activities, Accountability &amp; Workflows</b><br><b>Weight: 14%</b><br>Capability covering information-management accountability and the project information-production workflow, kept distinct (BEP, responsibility matrix). Indicators are directly attributable to the workflow. | No defined processes; roles are ambiguous; teams operate reactively; issues surface late, causing rework and delay.<br><b>KPI:</b> No BEP or SOPs; frequent coordination failures.<br><b>Evidence:</b> No BEP; no SOPs; undefined roles; late clashes and rework recorded.                                             | Information-management accountability and basic delivery workflows are defined at project level (roles, a draft BEP, basic SOPs); application is inconsistent across projects.<br><b>KPI:</b> Named BIM roles; basic templates/SOPs on projects.<br><b>Evidence:</b> Draft BEP; responsibility assignment; basic SOP set. | Accountability and standardized delivery workflows are implemented and controlled across the scope - model setup, coordination, checking, review, approval and exchange - with clear responsibility allocation.<br><b>KPI:</b> Workflow conformance managed; information rejection and issue closure tracked.<br><b>Evidence:</b> Organization SOP library; responsibility matrix per project; coordination/rejection records.                 | Workflows are integrated across disciplines and measured through directly attributable indicators (rejection rate, issue-closure time, approval turnaround, defect recurrence, corrective-action closure).<br><b>KPI:</b> Attributable workflow indicators reviewed through process audits.<br><b>Evidence:</b> Process-audit records; indicator trends; corrective-action closure. | Workflows are continually improved from analytics and recurrence data; team structures and workflows adapt to changing need. Advanced practice (e.g., 4D/5D, automated checking) is used where it adds value.<br><b>KPI:</b> Improvement actions from data; falling defect recurrence; no critical issues at construction start.<br><b>Evidence:</b> Improvement register; trend data; conditional advanced-practice records. |
| <b>Selected level &amp; score</b>                                                                                                                                                                                                                                                       | <b>□ 0</b>                                                                                                                                                                                                                                                                                                             | <b>□ 10</b>                                                                                                                                                                                                                                                                                                               | <b>□ 20</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>□ 30</b>                                                                                                                                                                                                                                                                                                                                                                         | <b>□ 40</b>                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Deliverables &amp; Level of Information Need</b><br><b>Weight: 13%</b><br>Capability to specify and verify deliverables against purpose-specific Level of Information Need: geometry, alphanumeric information and documentation (MIDP/TIDP). Generic LOD thresholds are not used.   | Deliverables are traditional and inconsistent; the information need is not defined; work is production only (2D, visualization, traditional documentation).<br><b>KPI:</b> No model-based deliverables; no defined information need.<br><b>Evidence:</b> 2D/visual outputs only; no LOIN; no model-based deliverables. | Deliverables and the Level of Information Need are defined to ensure baseline quality; application is inconsistent across projects.<br><b>KPI:</b> A LOIN/deliverable guideline is followed on some projects.<br><b>Evidence:</b> LOIN/deliverable guideline; sample federated model; early rework reduction.             | Deliverables are specified and verified against purpose-specific Level of Information Need (required geometry, alphanumeric information and documentation) across the scope, and quality-checked before sharing.<br><b>KPI:</b> Deliverables verified to LOIN for each purpose; rejection and rework managed.<br><b>Evidence:</b> LOIN specifications per purpose; checking and rejection records; VDC/reality-capture outputs where required. | Deliverables are integrated with downstream and asset-information use and measured for fitness to purpose; a feedback loop is reviewed.<br><b>KPI:</b> Fitness-to-purpose measured; client/asset feedback collected and acted on.<br><b>Evidence:</b> Acceptance records; feedback loop; as-built/record information to the agreed LOIN.                                            | Deliverables and services are continually improved from feedback and R&D. Advanced services (e.g., digital-twin or IoT-integrated datasets) are provided where relevant to the appointment's need and value.<br><b>KPI:</b> Improvement from feedback; conditional advanced services tied to defined need.<br><b>Evidence:</b> Improvement records; R&D pipeline; adoption/non-adoption decisions.                            |
| <b>Selected level &amp; score</b>                                                                                                                                                                                                                                                       | <b>□ 0</b>                                                                                                                                                                                                                                                                                                             | <b>□ 10</b>                                                                                                                                                                                                                                                                                                               | <b>□ 20</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>□ 30</b>                                                                                                                                                                                                                                                                                                                                                                         | <b>□ 40</b>                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| <b>Leadership &amp; Governance</b><br><b>Weight: 10%</b><br><i>Capability to establish objectives, decision rights, resources, accountability, performance measures and review for BIM and digital initiatives (top-management commitment). External outcomes are not universal maturity evidence.</i> | <i>Leadership lacks understanding of BIM/digital value; no objectives, roles or governance exist for digital initiatives.</i><br><b>KPI:</b> BIM is absent from strategy; no executive sponsor.<br><b>Evidence:</b> No BIM in strategy documents; no governance; no sponsor. | <i>Leadership defines high-level objectives and a basic governance intent; pilots are authorized; resourcing is limited.</i><br><b>KPI:</b> Objectives stated for design/engineering; a BIM lead is appointed.<br><b>Evidence:</b> Objective statement; pilot mandate; named lead. | <i>Leadership establishes objectives, decision rights, resources, accountability and review arrangements, implemented across the scope.</i><br><b>KPI:</b> Governance operating; dedicated budget and accountability; periodic management review.<br><b>Evidence:</b> Strategy/governance records; decision-rights or RACI; review minutes; budget allocation.                                  | <i>BIM/digital governance is integrated into corporate management and measured; performance informs decisions across business units, and internal policies (HR, procurement) are aligned.</i><br><b>KPI:</b> Performance measures reviewed at leadership level; aligned policies; improving delivery.<br><b>Evidence:</b> Integrated governance; performance reporting; aligned HR/procurement policy. | <i>Governance is continually improved; objectives and measures are refined from outcomes. New opportunities and technologies are pursued only where evaluated against need and value.</i><br><b>KPI:</b> Improvement driven by performance data; recorded strategic decisions and growth targets.<br><b>Evidence:</b> Improvement/roadmap records; annual planning including digital objectives. |
| <b>Selected level &amp; score</b>                                                                                                                                                                                                                                                                      | □ 0                                                                                                                                                                                                                                                                          | □ 10                                                                                                                                                                                                                                                                               | □ 20                                                                                                                                                                                                                                                                                                                                                                                            | □ 30                                                                                                                                                                                                                                                                                                                                                                                                   | □ 40                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>POLICY: Governance, standards &amp; contracts</b>                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Education, Training &amp; Competence</b><br><b>Weight: 9%</b><br><i>Capability to define required information-management activities, assign them to suitable individuals and verify performance. Training, certification and budget are evidence of effort, not proof of competence.</i>            | <i>Competence requirements are undefined; capability depends on individuals and is unverified; training is minimal or absent.</i><br><b>KPI:</b> No training or competence records.<br><b>Evidence:</b> No training plan; no competency records; widely varying skills.      | <i>Required activities and training needs are identified; assessment is informal and project-specific.</i><br><b>KPI:</b> A basic training plan and onboarding exist; production skills prioritized.<br><b>Evidence:</b> Training plan; onboarding material; attendance records.   | <i>Role- or activity-based competence requirements are defined and implemented; assigned individuals are assessed (knowledge, observed performance, output quality) and gaps are managed.</i><br><b>KPI:</b> Personnel assessed against defined requirements; gaps closed; training budget allocated.<br><b>Evidence:</b> Competence matrix; assessment/observation records; development plans. | <i>Competence information is integrated into resourcing, development and performance review and measured across the scope; supervision levels are defined.</i><br><b>KPI:</b> Competence used for project resourcing; effectiveness measured against targets.<br><b>Evidence:</b> Resourcing records; competence-linked review; supervision determinations.                                            | <i>The competence system is continually improved from outcome and trend data; future skill needs are anticipated and competence-related failures reduced.</i><br><b>KPI:</b> Improvement from competence outcomes; strong retention and internal progression.<br><b>Evidence:</b> Improvement records; assessment/trend data; peer-learning communities.                                         |
| <b>Selected level &amp; score</b>                                                                                                                                                                                                                                                                      | □ 0                                                                                                                                                                                                                                                                          | □ 10                                                                                                                                                                                                                                                                               | □ 20                                                                                                                                                                                                                                                                                                                                                                                            | □ 30                                                                                                                                                                                                                                                                                                                                                                                                   | □ 40                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Standards, Assurance &amp; Conformity</b><br><b>Weight: 9%</b>                                                                                                                                                                                                                                      | <i>No BIM standards, documented procedures or QA/QC; modelling is inconsistent; no performance metrics or compliance checks.</i>                                                                                                                                             | <i>Applicable requirements are identified and basic internal standards are defined (BEP, modelling/documentation);</i>                                                                                                                                                             | <i>Internal standards are implemented and enforced across the scope; routine QA/QC (implementation assurance) is</i>                                                                                                                                                                                                                                                                            | <i>Standards governance, implementation assurance and, where sought - external conformity are treated as distinct, integrated into the management</i>                                                                                                                                                                                                                                                  | <i>Standards, benchmarks and assurance are continually improved from lessons and change; requirements are updated when referenced standards</i>                                                                                                                                                                                                                                                  |

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| Capability covering internal standards governance, implementation assurance (QA/QC) and separately external conformity/certification, aligned to applicable internal and national standards. These are distinct constructs.                                                                                 | <b>KPI:</b> No standards or protocols; no compliance with recognized frameworks.<br><b>Evidence:</b> No BIM manual; no QA/QC procedure; no naming/classification convention.                                                            | compliance is inconsistent; initial quality targets are set.<br><b>KPI:</b> An organizational BIM standard exists; occasional review; initial quality metrics defined.<br><b>Evidence:</b> Draft BIM standard; sample BEP; defined clash/revision limits.                                                     | embedded and outputs are verified.<br><b>KPI:</b> Audit-verified compliance; routine QA/QC for deliverables; metrics within target.<br><b>Evidence:</b> internal BIM manual; audit records; scheduled QA/QC reports.                                                                                                                                                                                   | system and measured; compliance is monitored (automated where feasible).<br><b>KPI:</b> Assurance measured; any conformity/certification managed separately from internal standards.<br><b>Evidence:</b> QMS integration; automated/checked compliance; certification kept distinct where held.                                                  | change; quality targets are progressively raised.<br><b>KPI:</b> Institutionalized review cycle; year-on-year quality-metric gains.<br><b>Evidence:</b> Standards review log; improving quality trend; industry contribution where applicable.                                                                                                                                                                               |
| <b>Selected level &amp; score</b>                                                                                                                                                                                                                                                                           | <b>□ 0</b>                                                                                                                                                                                                                              | <b>□ 10</b>                                                                                                                                                                                                                                                                                                   | <b>□ 20</b>                                                                                                                                                                                                                                                                                                                                                                                            | <b>□ 30</b>                                                                                                                                                                                                                                                                                                                                      | <b>□ 40</b>                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Appointments &amp; Information Obligations</b><br><b>Weight: 7%</b><br>Capability to define, allocate and administer information obligations proportionate to the delivery model (EIR, information protocol, responsibility matrix). Procurement model and litigation history are not maturity measures. | Reliance on pre-BIM arrangements; risks related to model-based collaboration are unrecognized.<br><b>KPI:</b> Appointments contain no BIM/information clauses.<br><b>Evidence:</b> Standard contracts; no EIR; no information protocol. | The need for information obligations is recognized; basic requirements appear in appointments (creation, ownership, management); enforcement is basic.<br><b>KPI:</b> Appointments include BIM clauses; roles/responsibilities named.<br><b>Evidence:</b> BIM appendix/clauses; basic EIR; roles in contract. | Appointments define information requirements, functions, responsibilities, reliance, IP, security, acceptance, liability and issue resolution, proportionate to the delivery model, and are administered.<br><b>KPI:</b> Explicit, administered obligations; issues resolved via a defined process.<br><b>Evidence:</b> EIR and information protocol; responsibility matrix; issue-resolution records. | Information obligations are integrated across the supply chain and measured for clarity and administration; reliance and acceptance are managed across parties.<br><b>KPI:</b> Obligations administered and reviewed across appointments; disputes managed.<br><b>Evidence:</b> Administered protocols; cross-party reviews; collaboration KPIs. | Appointment arrangements are continually improved from outcomes and lessons; obligations are realigned to effort and change; templates are kept current. Collaborative models (e.g., IPD) are used where appropriate as context, not as a maturity gate.<br><b>KPI:</b> Templates reviewed/updated regularly; issues resolved proactively.<br><b>Evidence:</b> Updated templates; lessons applied; proactive-resolution log. |
| <b>Selected level &amp; score</b>                                                                                                                                                                                                                                                                           | <b>□ 0</b>                                                                                                                                                                                                                              | <b>□ 10</b>                                                                                                                                                                                                                                                                                                   | <b>□ 20</b>                                                                                                                                                                                                                                                                                                                                                                                            | <b>□ 30</b>                                                                                                                                                                                                                                                                                                                                      | <b>□ 40</b>                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Annexure B — Comparative BIM Maturity Models, Bew–Richards Correspondence and ISO 19650 Clause Basis

### B.1 Purpose and limitations

This annexure places the IBIMA Organizational Maturity Assessment Framework within the wider landscape of BIM maturity, capability, competency and project-performance assessment models.

It also preserves the historical relevance of the Bew–Richards BIM maturity model, identifies the Succar BIM Framework and BIM Maturity Matrix (Blm<sup>3</sup>) as the principal methodological foundation for organizational capability assessment, and explains the selected ISO 19650-2 clause basis.

The models described in this annexure were developed for different users, assessment objects and purposes. Their level structures and scores are not directly interchangeable.

- No IBIMA maturity level or BIM Maturity Index (BMI) band demonstrates ISO 19650 conformity or certification.
- The Bew–Richards levels provide historical and strategic context; they are not a direct organizational assessment method.
- The comparative table does not combine or reproduce the scoring systems of the referenced models.
- The ISO clause mapping is edition-specific and must be reviewed when referenced standards are revised, replaced, amended or withdrawn.

### B.2 Comparative reference landscape

The following models are included to establish the methodological context of the IBIMA framework. Inclusion does not imply equivalence or endorsement of a direct score conversion.

| Name                                                                    | Explanation                                                                                                                                                                                                                                                     | Scoring basis                                                                                                                                 | Scoring levels / output                                                                  | Detail source                                                                                    |
|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <i>Bew–Richards BIM maturity model</i>                                  | <i>The classic UK BIM Wedge developed by Mark Bew and Mervyn Richards. It presents a strategic progression from unmanaged CAD toward collaborative and integrated BIM and became influential in UK BIM policy.</i>                                              | <i>Industry roadmap, adoption targets, collaboration and standardization milestones; not a detailed organizational assessment instrument.</i> | <i>Levels 0-3.</i>                                                                       | <i>BIMe Initiative, The Wedge and the S-Curve; RICS, The Future of BIM (context)</i>             |
| <i>Succar BIM Framework / BIM Maturity Matrix (Blm<sup>3</sup>)</i>     | <i>A research-based framework and assessment matrix for identifying and improving BIM capability and maturity in organizations and project teams.</i>                                                                                                           | <i>Capability sets across Technology, Process and Policy, assessed at different organizational scales and granularity levels.</i>             | <i>BIM Capability Stages 1-3 and BIM Maturity Index levels a-e.</i>                      | <i>BIMe Initiative - 301in BIM Maturity Matrix; BIMe Initiative - Maturity Matrix Components</i> |
| <i>NBIMS-US Capability Maturity Model (historical)</i>                  | <i>A U.S. capability maturity model associated with earlier editions of the National BIM Standard – United States. It assessed BIM implementation across multiple areas. Current NBIMS-US releases are structured differently, so this entry is historical.</i> | <i>Multi-category capability assessment of project or organizational BIM implementation.</i>                                                  | <i>Earlier versions used a ten-level CMM across multiple assessment areas.</i>           | <i>NIBS - NBIMS-US Version 3 archive; ITcon - Overview of BIM maturity measurement tools</i>     |
| <i>BIM QuickScan</i>                                                    | <i>A Dutch benchmarking instrument created to provide insight into the current BIM performance of a company by combining quantitative and qualitative assessment of hard and soft aspects.</i>                                                                  | <i>Organizational performance, mentality and culture, information structure and flow, and tools and applications.</i>                         | <i>Company maturity profile and benchmarking score rather than one universal ladder.</i> | <i>TNO - BIM QuickScan</i>                                                                       |
| <i>Owner BIM Competency Assessment Framework (often called Owner's)</i> | <i>An owner-side framework developed to assess the BIM competency of facility-owner organizations.</i>                                                                                                                                                          | <i>Owner capability and readiness across BIM-related competency categories and functions.</i>                                                 | <i>Category-based, weighted competency assessment rather</i>                             | <i>ASCE - Framework for Evaluating the BIM Competencies of Facility Owners</i>                   |

|                                          |                                                                                                                                                                                         |                                                                                                              |                                                                                                            |                                                                      |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| <i>BIMCAT in comparative literature)</i> |                                                                                                                                                                                         | <i>than a universal 0-3 maturity ladder.</i>                                                                 |                                                                                                            |                                                                      |
| VDC Scorecard                            | <i>A Stanford CIFE project-level assessment tool for evaluating Virtual Design and Construction implementation and performance.</i>                                                     | <i>Weighted project metrics covering planning, adoption, technology and performance.</i>                     | <i>Weighted project scorecard and maturity/performance profile; not an enterprise BIM maturity ladder.</i> | <i>Stanford CIFE - The VDC Scorecard: Formulation and Validation</i> |
| Cross-disciplinary BIM Maturity Tool     | <i>A maturity-assessment tool developed and tested across disciplines in the Dutch construction industry to compare technological and organizational aspects of BIM implementation.</i> | <i>Organizational BIM maturity across technological and organizational dimensions and sectoral contexts.</i> | <i>Maturity profile suitable for organizational and sectoral comparison; not a universal fixed ladder.</i> | <i>ASCE - Developing and Testing a Tool to Evaluate BIM Maturity</i> |

### B.3 Methodological position of the IBIMA framework

The referenced models serve different purposes and should not be blended into a single scoring system.

The Succar BIM Framework and BIM Maturity Matrix provide the closest methodological foundation for the IBIMA framework because they distinguish capability sets from maturity levels and assess organizational performance across Technology, Process and Policy.

The Bew–Richards model is retained as a prominent historical and strategic reference. It communicates the broad progression of BIM adoption effectively, but it does not provide the detailed organizational evidence criteria required by this framework.

The remaining models demonstrate alternative approaches to owner competency, organizational benchmarking, project performance and cross-disciplinary maturity assessment. They provide design references and validation comparators; their scores are not imported into the IBIMA framework.

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### B.4 Indicative correspondence with the Bew–Richards levels

The table below preserves continuity with the widely recognized Bew–Richards BIM Wedge. It is an indicative historical correspondence only. It does not establish technical equivalence, conformity, certification or a direct score conversion.

| <b>IBIMA maturity level</b> | <b>Indicative Bew–Richards reference</b>                                    | <b>Interpretation</b>                                                                                                                                                                                               |
|-----------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Level 0 – Initial           | Bew–Richards Level 0                                                        | <i>Practice is largely unmanaged, fragmented or dependent on individual effort. Information production and exchange are not consistently controlled.</i>                                                            |
| Level 1 – Defined           | Broadly comparable to Bew–Richards Level 1                                  | <i>Basic modelling methods, standards or local procedures are defined, but implementation remains inconsistent across teams or projects.</i>                                                                        |
| Level 2 – Managed           | Broadly comparable to Bew–Richards Level 2                                  | <i>Collaborative BIM processes, defined responsibilities, coordinated information production and controlled exchange are implemented across the declared assessment scope.</i>                                      |
| Level 3 – Integrated        | Broadly comparable to the integrated-working intent of Bew–Richards Level 3 | <i>Capability is integrated across relevant disciplines, functions and information systems, with performance and risks measured and reviewed.</i>                                                                   |
| Level 4 – Optimized         | Extends beyond the original Bew–Richards 0-3 structure                      | <i>Capability is continually improved using evidence, performance trends, lessons learned and changing organizational need. Advanced technology may be used where justified, but is not a maturity requirement.</i> |

ISO 19650 is deliberately excluded from this level-correspondence table. ISO 19650 establishes information-management requirements; it does not define an organizational maturity ladder.

### B.5 ISO 19650-2 clause basis and limitations

The relationship between this framework and ISO 19650 is requirement-based rather than level-based. The clauses below support the use of capability and capacity assessment, information-management planning, technology mobilization and controlled information delivery. They do not create ISO maturity Levels 0-4.

| <b>ISO 19650-2:2018 reference</b>                                     | <b>Relevance to the IBIMA framework</b>                                                                                                                                                                 | <b>Limitation</b>                                                                                                       |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| 5.2.3 - Tender response requirements and evaluation criteria          | Supports the appointing party in defining and evaluating tender-response information relating to competence, capability, capacity, the pre-appointment BEP, mobilization and information-delivery risk. | Applies within a defined appointment and procurement context; it does not validate a general enterprise maturity score. |
| 5.3.3 - Assess task-team capability and capacity                      | Provides the most direct basis for assessing experience, personnel, education and training, ability to manage and produce information, and availability of software, hardware and IT infrastructure.    | Assessment is against the exchange information requirements and proposed BEP for the relevant task team.                |
| 5.3.4 - Establish delivery-team capability and capacity               | Supports aggregation of task-team assessments into a delivery-team capability and capacity summary.                                                                                                     | The summary remains role-, team- and appointment-specific.                                                              |
| 5.3.2(g) - Proposed software, hardware and IT infrastructure schedule | Supports review of the technology resources proposed in the pre-appointment BEP.                                                                                                                        | A technology schedule does not by itself demonstrate implementation, control or effectiveness.                          |
| 5.4.1(f) - Confirm software, hardware and IT infrastructure schedule  | Supports confirmation of the proposed technology arrangements at appointment.                                                                                                                           | Confirmation should be supported by subsequent mobilization and operational evidence.                                   |
| 5.5.2 - Mobilize information technology                               | Supports procurement, configuration, testing and deployment of suitable software, hardware, infrastructure, connectivity and CDE arrangements.                                                          | Mobilization evidence is project- and appointment-specific.                                                             |
| 5.5.3 - Test information production methods and procedures            | Supports testing and documented readiness of information-production and exchange methods before full delivery.                                                                                          | Testing does not replace ongoing performance monitoring and corrective action.                                          |
| 5.6 and 5.7 - Collaborative production and information delivery       | Support assessment of controlled production, checking, review, approval, authorization, exchange and delivery workflows.                                                                                | Only the applicable requirements within the declared role and scope should be assessed.                                 |

The framework also assesses broader organizational matters such as leadership, knowledge management, organizational governance and continual improvement. These are maturity-model constructs unless a separate standards clause is explicitly identified.

## B.6 Edition validity of the clause basis

The ISO clause references in this annexure are valid only for the editions recorded in the framework document-control register, and the main maturity descriptors are kept edition-neutral wherever possible. Where a referenced standard is amended, revised, replaced or withdrawn, the review and revision process set out in Section 7.12 (Standards edition control) applies.

### Document-control register — referenced standards:

| <b>Standard</b>                       | <b>Edition / status (as at July 2026)</b>             | <b>Notes</b>                                                                                            |
|---------------------------------------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| ISO 19650-1                           | 2018 edition — in force (reviewed and confirmed 2024) | Revision at Draft International Standard stage (ISO/DIS 19650-1); monitor for the expected new edition. |
| ISO 19650-2                           | 2018 edition — in force (reviewed and confirmed 2024) | Revision at Draft International Standard stage (ISO/DIS 19650-2); monitor for the expected new edition. |
| ISO/IEC 17024                         | 2026 edition — current (replaced the 2012 edition)    | Referenced for assessor / personnel-certification competence (Section 7.7).                             |
| ISO 19011                             | 2026 edition — current (replaced the 2018 edition)    | Referenced for auditing competence (Section 7.7).                                                       |
| National Building Code of India (NBC) | 2016 edition — Bureau of Indian Standards             | National reference.                                                                                     |

Register date: July 2026. Next scheduled review: July 2027, or on any change to a referenced standard, under the process in Section 7.12. Draft standards (e.g., ISO/DIS 19650) inform development but are not treated as normative until formally published and, where applicable, nationally adopted.

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## B.7 References and Sources

1. BIME Initiative. 301in BIM Maturity Matrix. <https://bimexcellence.org/>
2. Scottish Futures Trust - BIM Portal / information-management guidance (reference for structured assessment).  
<https://bimportal.scottishfuturestrust.org.uk/>
3. Bew, M. & Richards, M. (2008). BIM Maturity Model (Levels 0–3).
4. RICS. The Future of BIM: Digital transformation in the UK construction and infrastructure sector.
5. National Institute of Building Sciences. NBIMS-US Version 3 archive.
6. Van Berlo, Dijkmans, Hendriks, Spekkink and Pel. BIM QuickScan: Benchmark of BIM performance in the Netherlands.
7. Giel and Issa. Framework for Evaluating the BIM Competencies of Facility Owners.
8. Kam et al. The VDC Scorecard: Formulation and Validation.
9. Siebelink, Voordijk and Adriaanse. Developing and Testing a Tool to Evaluate BIM Maturity.
10. Wu, Xu, Mao and Li. Overview of BIM maturity measurement tools. ITcon 22 (2017), 34-62.
11. ISO 19650-1:2018 and ISO 19650-2:2018. Organization and digitization of information about buildings and civil engineering works, including BIM - Information management using building information modelling.