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9 May 2017

IPMS and ICMS can work together to improve comparability between projects, explains Alexander Aronsohn

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Most of you are already familiar with the International Property Measurement Standards Coalition, made up of 84 professional and not-for-profit organisations from around the world. Many of you will also be familiar with the International Property Measurement Standards (IPMS) for Office Buildings and Residential Buildings .

Linking ICMS with IPMS provides a valuable tool for overcoming inconsistencies [...] reducing risk in the construction process

But how many of you are aware of the International Construction Measurement Standards (ICMS), and of their link with the IPMS?

Cost categorisation

The construction industry is subject to national, regional and local variation, causing difficulties when making cost comparisons on projects where the exact cost breakdown is unknown.

The ICMS document, which is due to publish later in 2017, provides an internationally agreed framework of 13 categories, each identifying a different type of construction project and a template against which costs can be classified, recorded, analysed and presented.

Subject to comments received during the 2 extensive public consultations (now closed) there may be further revisions, but presently, the draft ICMS hierarchical framework has 4 levels:

1. project category;
2. cost category;
3. cost group; and
4. cost subgroup.

A project category is defined as the 'classification of a project based on the United Nations International Standard Industrial Classification (United Nations ISIC) structure of economic activities', covering buildings and infrastructure such as:

- roads;

- railways;
- bridges;
- tunnels;
- sewage and water treatment works;
- pipelines;
- power generation plants; and
- chemical plants and refineries.

For level 2, these can be further subdivided into capital construction costs and associated capital costs. At level 3, cost groups are divided into a small number of broad groups to enable easy estimation or extraction of cost data for quick, high-level comparison.

The cost groups can be divided again into cost subgroups at level 4 according to their functions or common purposes to enable the costs of alternatives to be evaluated and selected.

Gained in translation

ICMS can be used by all construction-related and real-estate specialisms to analyse and compare historic, present and future costs of new and retrofit or refurbishment projects. Applications include, but are not limited to:

- global investment decisions;
- cost comparisons;
- feasibility studies;
- project work;
- dispute resolution;
- reinstatement costs for insurance; and
- valuation of assets and liabilities.

The various cost analysis standards that are in place worldwide require the measurement of either the gross external floor area (GEFA) or the gross internal floor area (GIFA) of buildings.

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Currently, research shows that measurements can vary by up to 24% for office buildings and more than 50% for residential buildings depending on which standard is used.

To make comparisons, it is therefore necessary to adopt IPMS, which act as a common basis for measurement and can also be translated into local standards through the use of component areas.

The linking of ICMS with IPMS provides a valuable tool for overcoming inconsistencies, allowing dual reporting where necessary, increasing transparency and reducing risk in the construction process.

ICMS require a cost report to include both GEFA (IPMS 1) and GIFA (IPMS 2) measured in accordance with the rules in IPMS. In terms of GEFA and IPMS 1, these measurements are more or less identical, and GEFA can be converted into IPMS 1 with the following formula:

> **GEFA = IPMS 1 ? Balconies ? Accessible Roof Terraces**

There are slightly more variations between IPMS 2 and GEFA, but IPMS2 can still be converted into GIFA by using the following formula:

> **IPMS 2 = Gross Internal Floor Area + Limited Use Area 1 + External Balconies + Roof Terraces**

Formula re-entrants are balconies where half is inside the building and the other half is outside. These are treated as external; Limited Use Area 1 is the area difference subtracting the Internal Dominant Face.

It should be noted, though, that IPMS: Office and Residential Buildings states that:

> 'If there is no Internal Dominant Face, because no face in a Vertical Section exceeds 50%, or if the Internal Dominant Face is not vertical, the measurement should be to the wall?floor junction, ignoring skirting boards, cable trunking, heating and cooling units, and pipework.'

When dealing with a building that lacks an Internal Dominant Face because the final fenestration has not yet been decided, then measurements are to be taken to the nominal finished wall surface.

RICS has provided a more detailed pro forma for converting IPMS to GIFA, available to download from a BCIS .

Under consideration

Consultation on the ICMS is now closed in January. The ICMS Standard Setting Committee is reviewing the comments received and revising the document prior to eventual publication later this year.

Possible future revisions to ICMS are planned to incorporate whole-life costing, while IPMS will also be revised and consolidated once they have been issued for the 4 main building classes: namely, office, residential, industrial and retail, and mixed use.

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Further information

- Related competencies include Design economics and cost planning and Quantification and costing of construction works
- This feature is taken from the RICS *Construction journal* (April/May 2017)