IMPS London Meeting - Report and Update

13 September, London - Upon arriving at the Royal Institute of Chartered Surveyors (RICS) London Headquarters, in the heart of Parliament Square, Dario Trabucco and Will Miranda, of the CTBUH Research Office, were greeted by Alexander Aronsohn, the Director of Technical Standards for RICS. Alexander is also the Executive Secretary of the Standard Setting Committee (SSC) for the International Property Measurement Standards (IPMS) Coalition. Dario and Will were then lead to a boardroom where they were greeted by the majority of the other members of the SSC, who were in the third day of a week-long meeting, where they were discussing potential issues with their existing standards and future standards and documents that the SSC and the Coalition would be publishing.

As CTBUH had recently become a member of the IMPS Coalition, the committee was eager to learn more about the Council, and in return, Dario and Will were eager to learn and ask questions about the process for creating property measurement standards. CTBUH, in collaboration with ArcelorMittal, have recently embarked on a new research project entitled “Creating Industry-Accepted Criteria for Measuring Tall Building Floor Area,” which could benefit from the guidance of the IMPS Coalition and their Standard Setting Committee.

Following introductions, the meeting quickly lead to the Dario, Will, and Alexander exchanging information with the rest of the group on the activities and missions of CTBUH and IMPS, respectively. The SSC was particularly interested in learning about the CTBUH Height Criteria and the CTBUH Height and Data Committee, not only because of the similarities with their organization, but also with the view to take advantage of the international standards for measuring tall building height already created by CTBUH. Having already developed standards for measuring the floor area of office, residential, and retail buildings, they saw incorporating the CTBUH Height Criteria as the “backbone” for eventually determining the ultimate volume of buildings. The committee was also interested in the CTBUH definition for determining mixed- vs. single-function buildings and towers vs. buildings. CTBUH defines single-function buildings as buildings where 85 percent or more of its total floor area is dedicated to a single use. Additionally, CTBUH defines a building as such if at least 50 percent of its height is occupied by usable floor area. The SSC offered their assistance in helping CTBUH define “total floor area” and “usable floor area” in these definitions.

Next, Will, Dario, and the committee discussed the actual IPMS standards; as these standards apply to all building heights, Will and Dario pointed out common or unique features of tall buildings that could affect or change their standards. Some of these features that were mentioned included buildings with mixed functions, technical service rooms, atriums, refuge floors, sky lobbies, observation decks, sky gardens, and shared entrances for different functions. The Standard Setting Committee discussed ways they currently address these features, but this exercise possibly also informed the committee of areas in their existing standards where more specificity is needed. In the majority of case, these “special” features are counted in the IMPS standards, but often as a “footnote” or an extra column in the documentation, so they can be easily recognized as a different component.
As many countries have different methods for measuring floor area, the IMPS Coalition intentionally refers to their three methods of measuring floor areas as IPMS-1, IPMS-2, and IPMS-3. These measurements practices equate closely to the traditional definitions of gross external area (GEA), gross internal area (GIA), and net internal area (NIA), respectively, but the coalition does not use these terms, as to avoid contradicting codes or regulations of specific areas. Much like CTBUH’s definition of “height to tip” (the highest point of a building, irrespective of material or function), calculating IPMS-1 is fairly straightforward to determine and rarely controversial; IPMS-1 is defined as the sum of the area of each floor of a building, measured to the outer perimeter of external construction features (see Fig 1).
The definitions of IMPS-2 and IMPS-3 are where more debate can occur, particularly when it comes to including structural members. In IPMS-2 and IMPS-3, structural columns are included, but are listed as separate components (see Fig 2).

![Figure 2: Example of plans measured according to IPMS-2 (left) and IPMS-3 (right) for offices](image)

In both definitions, floor areas are measured to the “internal dominant face” of the building, which is defined as the inside finished surface comprising 50% or more of the surface area for each “vertical section” forming an internal perimeter. That being said, the definition of “vertical sections” ignores the existence of columns, even if the columns are within part of the interior finished surface or “internal dominant face (see Fig 3).

Even more questions can be raised of IMPS-3 for the inclusion of columns, as this measurement standard does exclude standard facilities and shared circulation (i.e., a building’s structural core and hallways). Structural columns are a significant inclusion for tall buildings, as the certain structural columns can take up as much floor area as a small staircase in a 2 or 3 story building (see Fig 4).

Overall, this meeting served as an informative discussion, which allowed CTBUH and the IPMS Coalition to share their ideas and approach to research. It also served as a good introduction to a debate, which will likely continue in more detail at the “Floor-Area Calculation” workshop, taking place on 29 October, before the CTBUH 2017 Australia Conference.
Figure 3: Diagram from definition of how to measure to the Internal Dominant Face

Figure 4: Floor plans of Dalian Greenland Center (Top-Left), Changsha IFS Tower (Top-Right), Suzhou IFS (Bottom-Left), and Marina 106 (Bottom-Right)