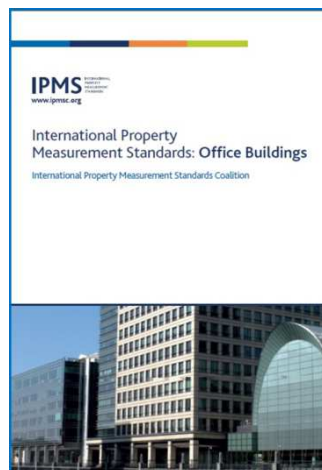


# MEASUREMENT CODE (EUREAL) VS. IPMS: OFFICE BUILDINGS

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20-21/03/2015

# Schedule

- IPMS SSC
- Aims and Use of the Standard
- General Principles of Measurement
- Reference Areas and Components
- Conclusion
- Q&A



# IPMS SSC



- What?
  - International Property Measurement Standards Standard Setting Committee
  - 18 real experts from around the world selected by IPMS Coalition
  - Diverse markets and backgrounds
- Why?
  - To develop global standards for property measurement

# IPMS SSC



- How?
  - Physical meetings in:
    - Brussels: September 2013 (kick-off)
    - Dubai: May 2014
    - Orlando: June 2014
    - Delhi: March 2015
  - Conference calls:
    - Office Buildings : 24
    - Residential Buildings : 6

# IPMS SSC

- Roadmap
  - IPMS Office Buildings
    - Draft + 2 public consultation rounds
    - Final version was published in November 2014
  - IPMS Residential Buildings
    - Draft: 1st half of 2015
    - Final version: end of 2015
  - IPMS Industrial Buildings
  - IPMS Retail
  - IPMS Mixed Use



# Aims and Use of the Standard

- Aim of IPMS
  - One shared international standard to provide a consistent measurement of property
- Similar to euREAL
  - One single code to provide a uniform and coherent way for measuring buildings
- euREAL provided the starting point of IPMS, but
  - ...

# Aims and Use of the Standard

- ... IPMS will create several standards
  - One for each building class
  - Each has distinctive characteristics that require individual analysis
- Principles, methodology and measurement practices will be similar in all standards
  - Need to be consistent: mixed use
- Differences:
  - Europe vs. global
  - Surveyors vs. other real estate professionals

# General Principles of Measurement

- Similarities:
  - Subdivision of the building: floor-by-floor basis
  - Measurements and calculations must be clearly documented (method and date of measurement, standard used, ...)
  - Floor area always measured horizontally
  - Spreadsheet with sum of components
- Difference:
  - Unit of measurement





# euREAL vs. IPMS: Office Buildings

- Reference Areas

- SEM

- External Area

- SIM

- Internal Area +  
Components

- SDC = SEM – SIM

- Constructed Area

- Reference Areas

- IPMS 1

- External Area

- IPMS 2 – Office

- Internal Area +  
Components

- IPMS 3 – Office

- Occupied Area

# euREAL vs. IPMS: Residential Buildings

- Reference Areas
  - SEM
    - External Area
  - SIM
    - Internal Area + Components
  - SDC
    - Constructed Area
- IPMS Components – Residential
- Reference Areas
  - IPMS 1
    - External Boundary
  - IPMS 2
    - Internal Boundary
  - IPMS 3 - Residential
    - Occupational Boundary

**EUREAL VS. IPMS : DECISION OF MARCH 2015  
=> STRUCTURE OF IPMS : OFFICES WILL BE REVISED**

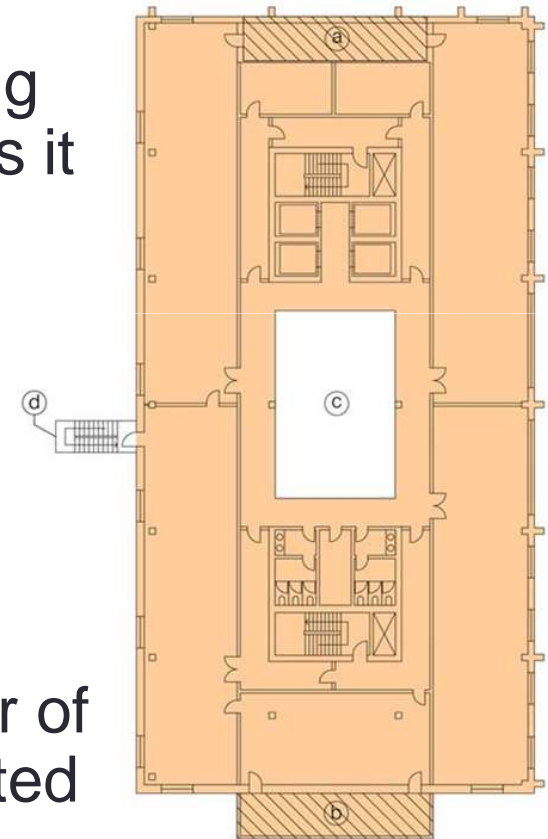
# IPMS 1 – External Area

- Use

- Used for measuring the area of a Building including external walls. In some markets it can be used by parties for planning purposes or the summary costing of development proposals

- Definition

- Sum of the areas of each floor level of a Building measured to the outer perimeter of external construction features and reported on a floor-by-floor basis



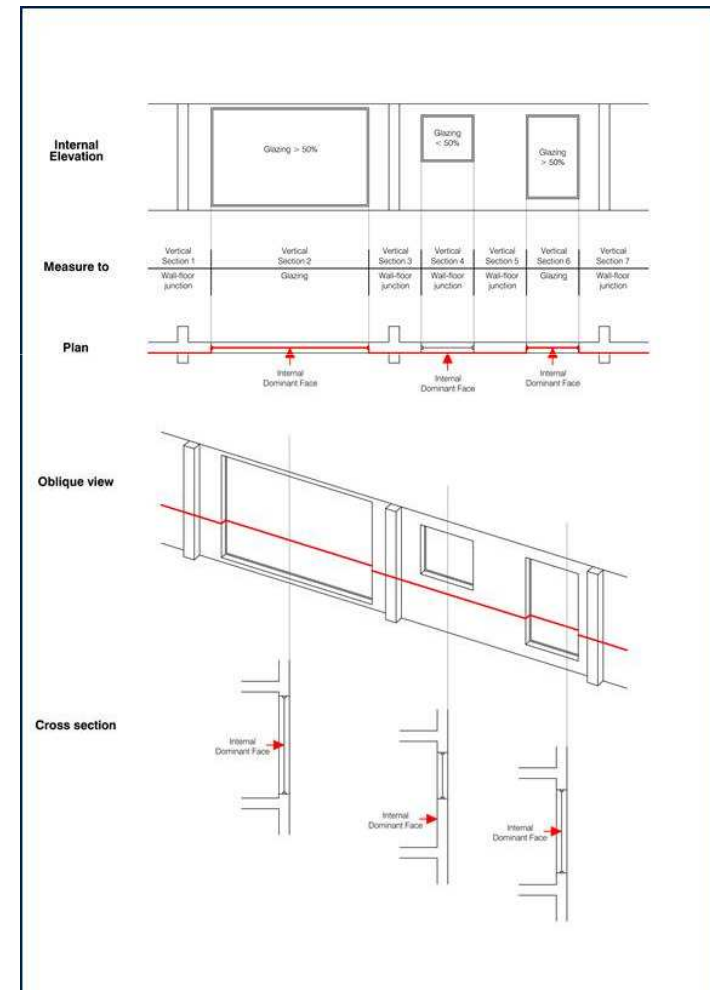


# Internal Dominant Face

- Internal Dominant Face
  - The inside finished surface comprising 50% or more of the surface area for each **vertical section** forming an internal perimeter
- Vertical Section
  - Each part of a window, wall or external construction feature of an office building, where the inside finished surface area varies from the inside finished surface area of the adjoining window, wall or external construction feature, ignoring the existence of any columns

# Internal Dominant Face

- When determining the **Internal Dominant Face** of a **Vertical Section** the following guidelines should be used:
  - skirting boards and decorative elements are not classified as being part of a wall
  - the existence of columns is ignored
  - window frames and mullions are deemed to form part of the window
  - air conditioning units, ducting bulkheads and cornices are ignored



# IPMS Components - Offices

- euREAL: 4 components (primary, residual, other, service areas)
- IPMS - Offices: Component areas
  - A – Vertical penetrations
  - B – Structural elements
  - C – Technical services
  - D – Hygiene areas
  - E – Circulation areas
  - F – Amenities
  - G – Workspace
  - H – Other areas

IPMS: Office Buildings

Sample spreadsheet for IPMS 2 – Office

Floor	-2	-1	0	1	2	3	4	Total
<b>Component Area A - Vertical Penetrations</b>								
Example - stairs, lift/elevator shafts and ducts	0	0	0	0	0	0	0	0
<b>Component Area B - Structural Elements</b>								
Example - structural walls, columns	0	0	0	0	0	0	0	0
* Limited use areas	0	0	0	0	0	0	0	0
IPMS total	0	0	0	0	0	0	0	0
<b>Component Area C - Technical Services</b>								
Example - plant rooms, lift/elevator motor rooms and maintenance rooms	0	0	0	0	0	0	0	0
* Limited use areas	0	0	0	0	0	0	0	0
IPMS total	0	0	0	0	0	0	0	0
<b>Component Area D - Hygiene Areas</b>								
Example - toilet facilities, cleaners' cupboards, shower rooms and changing rooms	0	0	0	0	0	0	0	0
* Limited use areas	0	0	0	0	0	0	0	0
IPMS total	0	0	0	0	0	0	0	0
<b>Component Area E - Circulation Areas</b>								
Example - all horizontal circulation areas	0	0	0	0	0	0	0	0
* Limited use areas	0	0	0	0	0	0	0	0
IPMS total	0	0	0	0	0	0	0	0
<b>Component Area F - Amenities</b>								
Example - cafeteria, day-care facilities, fitness	0	0	0	0	0	0	0	0

IPMS: Office Buildings

Sample spreadsheet for IPMS 2 – Office continued

Floor	-2	-1	0	1	2	3	4	Total
<b>Component Area G - Workspace</b>								
Workspace	0	0	0	0	0	0	0	0
* Limited use areas	0	0	0	0	0	0	0	0
IPMS total	0	0	0	0	0	0	0	0
<b>Component Area H - Other Areas</b>								
Example - balconies, covered galleries, internal car parking and storage rooms **	0	0	0	0	0	0	0	0
* Limited use areas	0	0	0	0	0	0	0	0
IPMS total	0	0	0	0	0	0	0	0
<b>TOTAL IPMS 2 – Office</b>								
Aggregate non-limited use Component Areas	0	0	0	0	0	0	0	0
* Limited use areas	0	0	0	0	0	0	0	0
Total IPMS 2 – Office	0	0	0	0	0	0	0	0
<b>Additional areas outside IPMS 2 – Office</b>								
External car parking								0
Decks, patios not forming part of the building structure								0
Any other areas (Example – equipment yards, cooling equipment, refuse areas)								0

\* Each limitation, if any, is to be stated separately  
 \*\* The extent of each use within Component Area H is to be stated separately

# IPMS Components - Resi

- IPMS - Residential
  - A – Vertical Penetrations
  - B – Exterior Walls
  - C – Internal Structural Elements
  - D – Internal Non-Structural Elements
  - E – Technical Services
  - F – Hygiene Areas
  - G – Circulation Areas
  - H – Amenities
  - I – Living Space
  - J – Other Areas

IPMS: Office Buildings

Sample spreadsheet for IPMS 2 – Office

Floor	-2	-1	0	1	2	3	4	Total
<b>Component Area A - Vertical Penetrations</b>								
Example - stairs, lift/elevator shafts and ducts	0	0	0	0	0	0	0	0
<b>Component Area B - External Elements</b>								
Example - structural walls, columns	0	0	0	0	0	0	0	0
* Limited use areas	0	0	0	0	0	0	0	0
IPMS total	0	0	0	0	0	0	0	0
<b>Component Area C - Technical Services</b>								
Example - plant rooms, lift/elevator motor rooms and maintenance rooms	0	0	0	0	0	0	0	0
* Limited use areas	0	0	0	0	0	0	0	0
IPMS total	0	0	0	0	0	0	0	0
<b>Component Area D - Hygiene Areas</b>								
Example - toilet facilities, cleaners' cupboards, shower rooms and changing rooms	0	0	0	0	0	0	0	0
* Limited use areas	0	0	0	0	0	0	0	0
IPMS total	0	0	0	0	0	0	0	0
<b>Component Area E - Circulation Areas</b>								
Example - all horizontal circulation areas	0	0	0	0	0	0	0	0
* Limited use areas	0	0	0	0	0	0	0	0
IPMS total	0	0	0	0	0	0	0	0
<b>Component Area F - Amenities</b>								
Example - canteens, day-care facilities, fitness	0	0	0	0	0	0	0	0

IPMS: Office Buildings

Sample spreadsheet for IPMS 2 – Office continued

Floor	-2	-1	0	1	2	3	4	Total
<b>Component Area G - Workspace</b>								
Workspace	0	0	0	0	0	0	0	0
* Limited use areas	0	0	0	0	0	0	0	0
IPMS total	0	0	0	0	0	0	0	0
<b>Component Area H - Other Areas</b>								
Example - balconies, covered galleries, internal car parking and storage rooms**	0	0	0	0	0	0	0	0
* Limited use areas	0	0	0	0	0	0	0	0
IPMS total	0	0	0	0	0	0	0	0
<b>TOTAL IPMS 2 – Office</b>								
Aggregate non-limited use Component Areas	0	0	0	0	0	0	0	0
* Limited use areas	0	0	0	0	0	0	0	0
Total IPMS 2 – Office	0	0	0	0	0	0	0	0
<b>Additional areas outside IPMS 2 – Office</b>								
External car parking								0
Decks, patios not forming part of the building structure								0
Any other areas (Example - equipment yards, cooling equipment, refuse areas)								0

\* Each limitation, if any, is to be stated separately  
 \*\* The extent of each use within Component Area H is to be stated separately

Part 1  
Aim and Scope of the Standards

Part 2  
Principles of Measurement

Part 3  
IPMS Standards



# Limited Use Areas

- Area difference from Internal Dominant Face
  - IDF vs. wall-floor junction (paint-to-paint)
- Areas with limited height
- Above and below ground



# euREAL vs. IPMS: compliance

- IPMS 1 and IPMS 2 will be the same for all asset classes
- + IPMS Components + LUA : translation between euREAL and IPMS seems easy, but small adaptations are needed
  - Primary and residual areas: need to create 4 subcategories (hygiene areas, circulation areas, amenities, workspace)
  - Primary, residual and service areas: subdivision for private AND common areas
- Guidance notes will be created!

# Table of Measurements

Floor		-2	-1	0	1	2	3	4	Total
Component Area A - Vertical Penetrations									
	LUA 1 (Private)								
		Lift shafts	0	0	0	0	0	0	0
		Stairwells, access ramps	0	0	0	0	0	0	0
	LUA 2 (Common areas)		0	0	0	0	0	0	0
	IPMS total		0	0	0	0	0	0	0
Component Area B - Structural Elements									
		Structural walls, columns	0	0	0	0	0	0	0
	IPMS total		0	0	0	0	0	0	0
Component Area C - Technical Services									
	LUA 1 (Private)	Service areas	0	0	0	0	0	0	0
	LUA 2 (Common areas)		0	0	0	0	0	0	0
	IPMS total		0	0	0	0	0	0	0
Component Area D - Hygiene Areas									
	LUA 3 (> 2,10m AND Private)		0	0	0	0	0	0	0
	LUA 4 (> 2,10m AND Common areas)		0	0	0	0	0	0	0
	LUA 5 (< 2,10m AND Private)		0	0	0	0	0	0	0
	LUA 6 (< 2,10m AND Common areas)		0	0	0	0	0	0	0
	IPMS total		0	0	0	0	0	0	0
Component Area E - Circulation Areas									
	LUA 3 (> 2,10m AND Private)		0	0	0	0	0	0	0
	LUA 4 (> 2,10m AND Common areas)		0	0	0	0	0	0	0
	LUA 5 (< 2,10m AND Private)		0	0	0	0	0	0	0
	LUA 6 (< 2,10m AND Common areas)		0	0	0	0	0	0	0
	IPMS total		0	0	0	0	0	0	0
Component Area F - Amenities									
	LUA 3 (> 2,10m AND Private)		0	0	0	0	0	0	0
	LUA 4 (> 2,10m AND Common areas)		0	0	0	0	0	0	0
	LUA 5 (< 2,10m AND Private)		0	0	0	0	0	0	0
	LUA 6 (< 2,10m AND Common areas)		0	0	0	0	0	0	0
	IPMS total		0	0	0	0	0	0	0
Component Area G - Workspace									
	LUA 3 (> 2,10m AND Private)		0	0	0	0	0	0	0
	LUA 4 (> 2,10m AND Common areas)		0	0	0	0	0	0	0
	LUA 5 (< 2,10m AND Private)		0	0	0	0	0	0	0
	LUA 6 (< 2,10m AND Common areas)		0	0	0	0	0	0	0
	IPMS total		0	0	0	0	0	0	0
Component Area H - Other Areas									
	LUA 1 (Private)	Archive, storage	0	0	0	0	0	0	0
		Cellars	0	0	0	0	0	0	0
		Parking, garages	0	0	0	0	0	0	0
		Unconverted usable roofspace	0	0	0	0	0	0	0
		Balconies, loggias, upper floor terraces	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
	LUA 2 (Common areas)		0	0	0	0	0	0	0
	IPMS total		0	0	0	0	0	0	0
TOTAL IPMS 2 - OFFICE									
	Aggregate non-limited use Component Areas		0	0	0	0	0	0	0
	Limited use areas	LUA 1 (Private)	0	0	0	0	0	0	0
		LUA 2 (Common areas)	0	0	0	0	0	0	0
		LUA 3 (> 2,10m AND Private)	0	0	0	0	0	0	0
		LUA 4 (> 2,10m AND Common areas)	0	0	0	0	0	0	0
		LUA 5 (< 2,10m AND Private)	0	0	0	0	0	0	0
		LUA 6 (< 2,10m AND Common areas)	0	0	0	0	0	0	0
	Total IPMS 2 - office		0	0	0	0	0	0	0

# Conclusion



- IPMS can interface between existing measurements standards by providing a common measurement language
- IPMSC + SSC expect IPMS to work initially in parallel with local standards (dual reporting)
- In time we expect IPMS to become the primary basis of measurements accross markets

# Q&A

- Websites

- IPMS : [ipmsc.org](http://ipmsc.org)

- A copy of IPMS : Office Buildings (nov 2014)
    - A schedule for IPMS : Residential, IPMS : Industrial, IPMS : Retail
    - A comprehensive set of technical questions and answers
    - The Board of Trustees and The Standards Setting Committee
    - A list of partners and members

- euREAL : [www.eureal.eu](http://www.eureal.eu)

**THANK YOU !**

