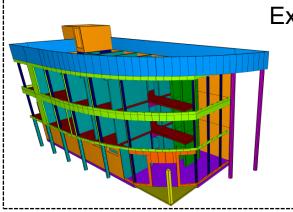
IFC model analysis to gain insights into design processes

Task

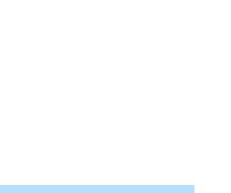
- BIM models can contain massive information, which are difficult to manage
- Statistical analysis of properties can help identify unexpected values or predicting missing properties enhancing the overall model quality

GENERAL INSTRUCTIONS:

- Get familiar with quality aspects of BIM models
- Derive best-practice modeling techniques from a set of BIM models provided by industry professionals
- Derive Information Exchange requirements to be applied in new projects
- Visualize model defects in a web-based environment and propose enhancements
- Build a web-platform that enables the extraction of exchange requirements from a BIM model



Action Action<	INFORMATION TAKEOFF	(†)	🕀 Takeoff All 🔻 🕻 Cost Report 🔻 🕃 🗗 🛅 📩 🛃 🗍 🕲 层 Report 🗎 🖆 🗎								
Action Action<	Building Elements - General	Type	Gross Area	Area	Bottom Area	Length	Height	Thickness	Volume	Count	Color
1 0.19 m2 19,60 m 1.85 m3 2 425.56 m2 370.57 m2 30,19 m2 196,05 m 2,10 m 2,10 m3 2,0 425.56 m2 370.57 m2 31,19 m2 132,54 m 62,35 m 4,80 m 750 m3 2,0 77.66 m2 6.68 m2 6.68 m2 6.68 m2 6.68 m2 55,67 m 13,00 m 7,70 m 12 17.05 m2 77,05 m2 55,57 m 55,67 m 16,00 m 7,70 m 16 131,23 m2 41,02 m2 191,07 m2 160 mm 62,56 m3 3 191,07 m2 191,07 m2 15,57 m2 55,57 m2 10,50 m 10,50 m 10,52 m2 2 191,07 m2 191,07 m2 191,07 m2 191,07 m2 10,07 m3	Columns	C-1 240 x 240			0,06 m2	3,15 m			181 I	1	
442 60.27m2 66.35 m (40.27m2) 70.27m2 66.25 m (40.27m2) 211 m	Columns	C-2 D300			0,35 m2	17,50 m			1,22 m3	5	
425,56 m2 370,95 m2 31,19 m2 132,54 m 62,35 m 4,80 m 87,99 m3 20 6,08 m2 6,08 m2 6,08 m2 6,04 m 1,00 m 200 mm 5991 2 77,96 m2 77,96 m2 55,55 m3 55,57 m 1820 m 1,00 m 7,77 m3 13 134,84 m2 44,02 m2 55,55 m2 52,52 m 50,40 m 1,60 m 7,79 m3 16 134,84 m2 43,02 m2 12,55 m2 52,62 m 50,40 m 1,60 m 77,91 3 22,63 m2 131,79 m2 191,07 m2 191,07 m2 600 mm 62,56 m3 3 22,25 m2 6,59 m2 6,50 m2 6,50 m 600 mm 62,56 m3 3 6,60 m2 6,50 m2 6,59 m3 6,50 m3 14,77 m2 13,00 m 1,01 m3 1 6,78 m2 6,59 m3 14,77 m2 14,81,2 m 10,00 m 41,1 m3 12 172,01 m2 13,56 m2 14,72 m2 14,81,2 m 1,32,0 m 1,35 m 2,21	Columns	C-2 D350			0,19 m2	19,60 m			1,85 m3	2	
6.08 m2 6.08 m2 6.08 m2 6.08 m2 6.08 m2 5.55 m2 130 m2 200 mm 5.991 2 132.83 m2 4.10.2 m2 5.55 m2 5.55 m2 5.04 m 1.30 m 7.77 m3 13 132.83 m2 4.10.2 m2 5.55 m2 5.62 m 9.04 m 1.30 m 7.77 m3 16 134.42 m2 8.37 m2 1.25 m2 12.62 m 9.04 m 7.57 m3 2 2 1910.70 m2 1910.70 m2 1910.70 m2 1910.70 m 7.77 m3 2 2 600 mm 7.52 m2 2 2 600 mm 5.52 m2 2 600 mm 5.52 m2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Columns	C-4 D200			0,72 m2	68,35 m			2,11 m3	23	
77.96 m2 77.96 m2 55.55 m2 55.55 m2 13.20 m 1.30 m 7.77 m3 13 13.28 m2 41.02 m2 55.55 m2 56.22 m 50.40 m 1.60 m 40.22 m3 16 13.43 m2 8.37 m2 12.52 m2 50.40 m 1.60 m 771 m3 13 13.44 m2 8.37 m2 12.52 m 50.40 m 1.60 m 771 m3 13 13.07 m2 191.07 m2 112.52 m 12.62 m 50.40 m 50.00 mm 771 m3 2 22.63 m2 312.79 m2 312.79 m2 66.00 mm 62.56 m3 2 100 mm 10.22 m 1 6.68 m2 6.69 m2 6.69 m2 150 mm 110.22 m 1 1 1 6.7.88 m2 6.159 m2 14.72 m2 21.80 m 37.20 m 840 mm 41.3 m3 12 6.83 m2 147.27 m2 148.12 m 10.40 m 3.60 m 41.24 m3 36 7.10 m2 136 m2.01 m2 1.318 m2.01 m3 2.02 m3 9 10.31 m3	External Walls	EW-1 240	425,56 m2	370,95 m2	31,19 m2	132,54 m	62,35 m	4,80 m	87,09 m3	20	
132,83 m2 41,02 m2 55,9 m2 56,62 m 50,40 m 1,60 m 42,02 m3 16 34,42 m2 8,37 m2 12,5 m2 12,2 c m 10,50 m 300 mm 7311 3 191,07 m2 191,07 m2 191,07 m2 190,07 m2 600 mm 55,2 m2 2 322,63 m2 312,79 m2 32,2 m 600 mm 65,2 m3 3 3 m, 66,00 m2 6,59 m2 6,59 m2 6,59 m2 16,0 mm 10,2 m3 1 67,89 m2 6,59 m2 14,7 m2 2,100 m 37,20 m 840 mm 41,3 m3 12 172,50 m2 415,38 m2 148,12 m 110,40 m 3,60 m 41,24 m3 36	External Walls	EW-2 100	6,08 m2	6,08 m2	0,63 m2	6,40 m	1,90 m	200 mm	599 I	2	
34.42 m2 8.37 m2 1.2.5 m2 12.62 m 10.05 m 300 mm 7911 3 191,07 m2 191,07 m2 191,07 m2 600 mm 57.32 m3 2 3226.36 m2 312,27 m2 312,27 m2 52.55 m3 3 on 6.80 m2 6.80 m2 6.80 m2 150 mm 10.2 m3 1 6.7.89 m2 61.59 m2 14,74 m2 21,90 m 37,20 m 840 mm 41,3 m3 12 433.57 m2 4153 m3 147,2m2 148,12 m 110,40 m 3,60 m 41,4 m3 36 172,61 m2 136,07 m2 8,11 m2 54,50 m 28,20 m 1,35 m 20,21 m3 9	External Walls	EW-3 100	77,96 m2	77,96 m2	5,55 m2	55,67 m	18,20 m	1,30 m	7,77 m3	13	
191,07 m2 191,07 m2 191,07 m2 191,07 m2 6600 mm 57.32 m3 2 222,63 m2 312,79 m2 312,79 m2 6600 mm 62.56 m3 3 6,80 m2 6,80 m2 100 mm 10.22 m3 1 6,789 m2 6,159 m2 14,77 m2 21,90 m 37.20 m 840 mm 4.13 m3 12 172,56 m2 145,27 m2 148,12 m 110,40 m 36,40 m 41.24 m3 36	External Walls	EW-4 100	132,83 m2	41,02 m2	5,59 m2	56,22 m	50,40 m	1,60 m	4,02 m3	16	
322,63 m2 312,79 m2 312,79 m2 600 mm 62,56 m3 3 on 6,80 m2 6,80 m2 150 mm 10,22 m3 1 6,789 m2 61,59 m2 1,47 m2 21,90 m 37,20 m 840 mm 1,13 m3 1 433,57 m2 415,33 m2 142,72 m2 118,12 m 110,40 m 3,60 m 41,47 m3 3 172,61 m2 136,07 m2 8,11 m2 54,50 m 28,20 m 1,35 m 20,21 m3 9	External Walls	EW-5 100	34,42 m2	8,37 m2	1,25 m2	12,62 m	10,50 m	300 mm	791 I	3	
on 6,80 m2 6,80 m2 6,80 m2 6,80 m2 150 mm 1,02 m3 1 6,789 m2 6,159 m2 1,47 m2 21,90 m 37,20 m 840 mm 4,13 m3 12 44535 7m 4153 m3 147,27 m2 148,12 m 110,40 m 34,00 m 41,24 m3 36 172,61 m2 136,07 m2 8,11 m2 54,50 m 28,20 m 1,35 m 20,21 m3 9	Floor Slabs	FS-1 300	191,07 m2	191,07 m2	191,07 m2			600 mm	57,32 m3	2	
67,89 m2 61,59 m2 1,47 m2 21,90 m 37,20 m 840 mm 4,13 m3 12 43,357 m2 415,38 m2 14,72 m2 148,12 m 110,40 m 3,66 m 41,24 m3 36 172,61 m2 186,07 m2 8,11 m2 54,50 m 2,82 m 1,58 m 2,01 m3 9	Floor Slabs	FS-2 200	322,63 m2	312,79 m2	312,79 m2			600 mm	62,56 m3	3	
453,57 m2 415,38 m2 14,72 m2 148,12 m 110,40 m 3,60 m 41,24 m3 36 172,61 m2 136,07 m2 8,11 m2 54,50 m 28,20 m 1,35 m 20,21 m3 9	Floor Slabs	structural con	6,80 m2	6,80 m2	6,80 m2			150 mm	1,02 m3	1	
172,61 m2 136,07 m2 8,11 m2 54,50 m 28,20 m 1,35 m 20,21 m3 9	Load Bearing Walls	IW-4 70	67,89 m2	61,59 m2	1,47 m2	21,90 m	37,20 m	840 mm	4,13 m3	12	
	Partition Walls	IW-1 100	453,57 m2	415,38 m2	14,72 m2	148,12 m	110,40 m	3,60 m	41,24 m3	36	
3.99 m2 3.99 m2 0.31 m2 10.50 m 1.43 m 90 mm 1201 3	Partition Walls	IW-2 150	172,61 m2	136,07 m2	8,11 m2	54,50 m	28,20 m	1,35 m	20,21 m3	9	
5,55 mz 5,55 mz 6,51 mz 10,56 m 1,45 m 50 mm 1201 5	Partition Walls	IW-5 30	3,99 m2	3,99 m2	0,31 m2	10,50 m	1,43 m	90 mm	120	3	
0,00 mil 0,00 mil 10,00 mil 1,40 mil 50 mil 120 mil	Partition Walls Partition Walls Partition Walls	IW-1 100 IW-2 150	453,57 m2 172,61 m2	415,38 m2 136,07 m2	14,72 m2 8,11 m2	148,12 m 54,50 m	110,40 m 28,20 m	3,60 m 1,35 m	41,24 m3 20,21 m3		36 9



Project Characteristics

Modeling:

Science:

Mathematics:

Programming:

AEC 3

