Vanity Height: the Empty Space in Today’s Tallest

We noticed in Journal 2013 Issue I’s case study on Kingdom Tower, Jeddah, that a fair amount of the top of the building seemed to be an unoccupied spire. This prompted us to explore the notion of “vanity height” in supertall buildings, i.e., the distance between a skyscraper’s highest occupiable floor and its architectural top, as determined by CTBUH Height Criteria.¹

Note:
¹Historically there have been 74 completed supertalls (300+ m) in the world, including the now-demolished One and Two World Trade Center in New York.
²For more information on the CTBUH Height Criteria, visit http://criteria.ctbuh.org

World’s Ten Tallest Vanity Heights (as of July 2013 data)
Below are the ten tallest “Vanity Heights” in today’s completed supertalls.

1. **Burj Al Arab**
   - With a vanity height of nearly 124 meters within its architectural height of 321 meters, the Burj Al Arab has the highest non-occupiable-to-occupiable height ratio among completed supertalls. 39% of its height is non-occupiable.

2. **Emirates Tower One**
   - Height to Architectural Top: 355 m
   - Occupiable Space: 244 m
   - Non-occupiable Space: 111 m
   - 39% non-occupiable height
   - 61% occupiable height

3. **New York Times Tower**
   - Height to Architectural Top: 319 m
   - Occupiable Space: 244 m
   - Non-occupiable Space: 75 m
   - 24% non-occupiable height
   - 76% occupiable height

4. **Emirates Tower Two**
   - Height to Architectural Top: 309 m
   - Occupiable Space: 244 m
   - Non-occupiable Space: 65 m
   - 21% non-occupiable height
   - 79% occupiable height

5. **Burj Khalifa**
   - Height to Architectural Top: 828 m
   - Occupiable Space: 585 m
   - Non-occupiable Space: 243 m
   - 29% non-occupiable height
   - 71% occupiable height

6. **Bank of America Tower**
   - Height to Architectural Top: 366 m
   - Occupiable Space: 235 m
   - Non-occupiable Space: 131 m
   - 36% non-occupiable height
   - 64% occupiable height

7. **Zifeng Tower**
   - Height to Architectural Top: 450 m
   - Occupiable Space: 317 m
   - Non-occupiable Space: 133 m
   - 29% non-occupiable height
   - 71% occupiable height

8. **Minsheng Bank Building**
   - Height to Architectural Top: 331 m
   - Occupiable Space: 237 m
   - Non-occupiable Space: 94 m
   - 28% non-occupiable height
   - 72% occupiable height

9. **The Pinnacle**
   - Height to Architectural Top: 360 m
   - Occupiable Space: 265 m
   - Non-occupiable Space: 95 m
   - 26% non-occupiable height
   - 74% occupiable height

10. **Emirates Tower Two**
    - Height to Architectural Top: 309 m
    - Occupiable Space: 244 m
    - Non-occupiable Space: 65 m
    - 21% non-occupiable height
    - 79% occupiable height

*The highest occupied floor height as datum line.
**The highest occupied floor height.

Without Vanity Height, 44 (61%) of the world’s 72 supertalls¹ would measure less than 300 meters, losing their supertall status. The tallest of these is Guangzhou’s 390-meter CITIC Plaza.

According to current CTBUH Height Criteria regarding telecommunications towers, a 50% vanity height would deem any structure a non-building!

At 244 meters, the Burj Khalifa’s Vanity Height would be an impressive stand-alone skyscraper. If built in Europe, it would become the continent’s 11th-tallest building.
**History of Vanity Height**

The graph below charts Vanity Height as a percentage of overall architectural height for some of the world’s 74 completed supertalls.¹

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**Vanity Height in Detail**

The graphs below examine the average Vanity Height of completed supertalls by country, date of completion, and architectural height.

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### China (24 buildings)
- Average Vanity Height: 14%

### USA (16 buildings)
- Average Vanity Height: 13%

### UAE (19 buildings)
- Average Vanity Height: 19%

### Other Countries (15 buildings)
- Average Vanity Height: 13%

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### Pre-1950 (2 buildings)
- Average Vanity Height: 11%

### 1950–1974 (5 buildings)
- Average Vanity Height: 4%

### 1975–1999 (17 buildings)
- Average Vanity Height: 16%

### 1999–2013 (50 buildings)
- Average Vanity Height: 16%

### 300–349 m (43 buildings)
- Average Vanity Height: 15%

### 350–400 m (13 buildings)
- Average Vanity Height: 21%

### 400–450 m (10 buildings)
- Average Vanity Height: 15%

### 450 m+ (8 buildings)
- Average Vanity Height: 8%

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With no spire, The Ukraina Hotel in Moscow, Russia (206 m, b. 1955) has 42% Vanity Height – the “vainest” building overall in the CTBUH database.

New York City contains two of the tallest 10 Vanity Heights – and is set to gain a third with the completion of One World Trade Center in 2014.

The Auckland Sky Tower, New Zealand (450 m, b. 1996) has 8% Vanity Height – the tallest building overall in the CTBUH database.