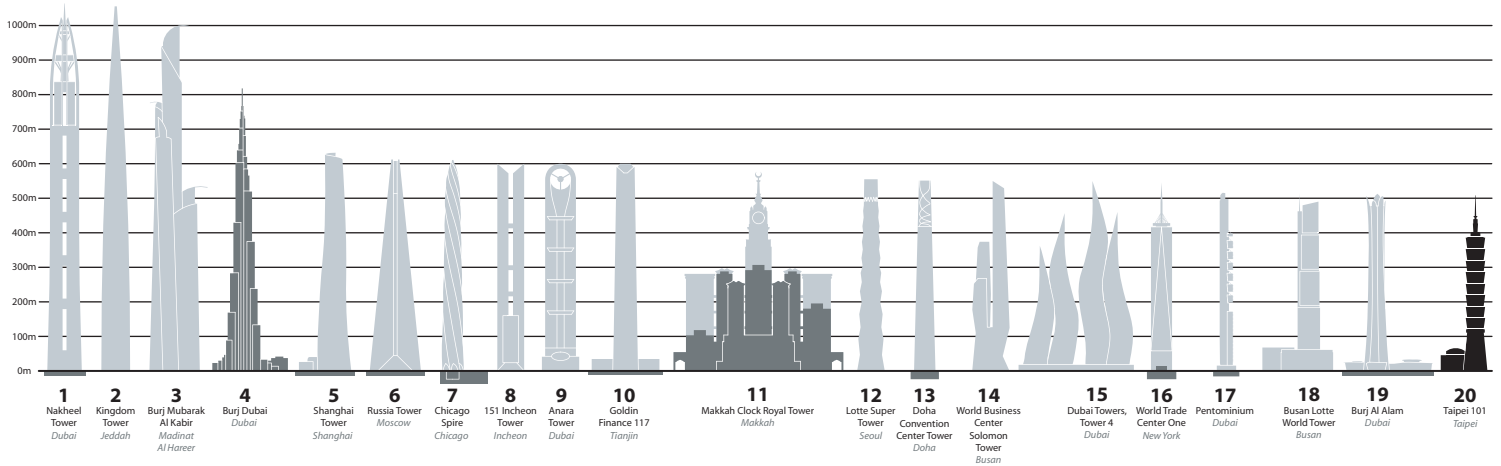






The Tallest 20 in 2020

CTBUH Projection, Second Edition, January 2009

Due to the current economic climate, some buildings on this list may have slowed construction / development pace or have been put 'on hold' recently. The current intention, however, is that all projects on the list will be completed, though that may change in the coming months / years. Only buildings that are fully in the public domain and fulfill all the criteria listed at the end of this document are included in the CTBUH Tallest 20 in 2020 – there may well be other proposed buildings that would make the list, but are for client / project confidentiality reasons not yet publicized. Also, due to the changing nature of early stage designs and client information restrictions, some height data for 'proposed' tall buildings that appears on this list is unconfirmed.

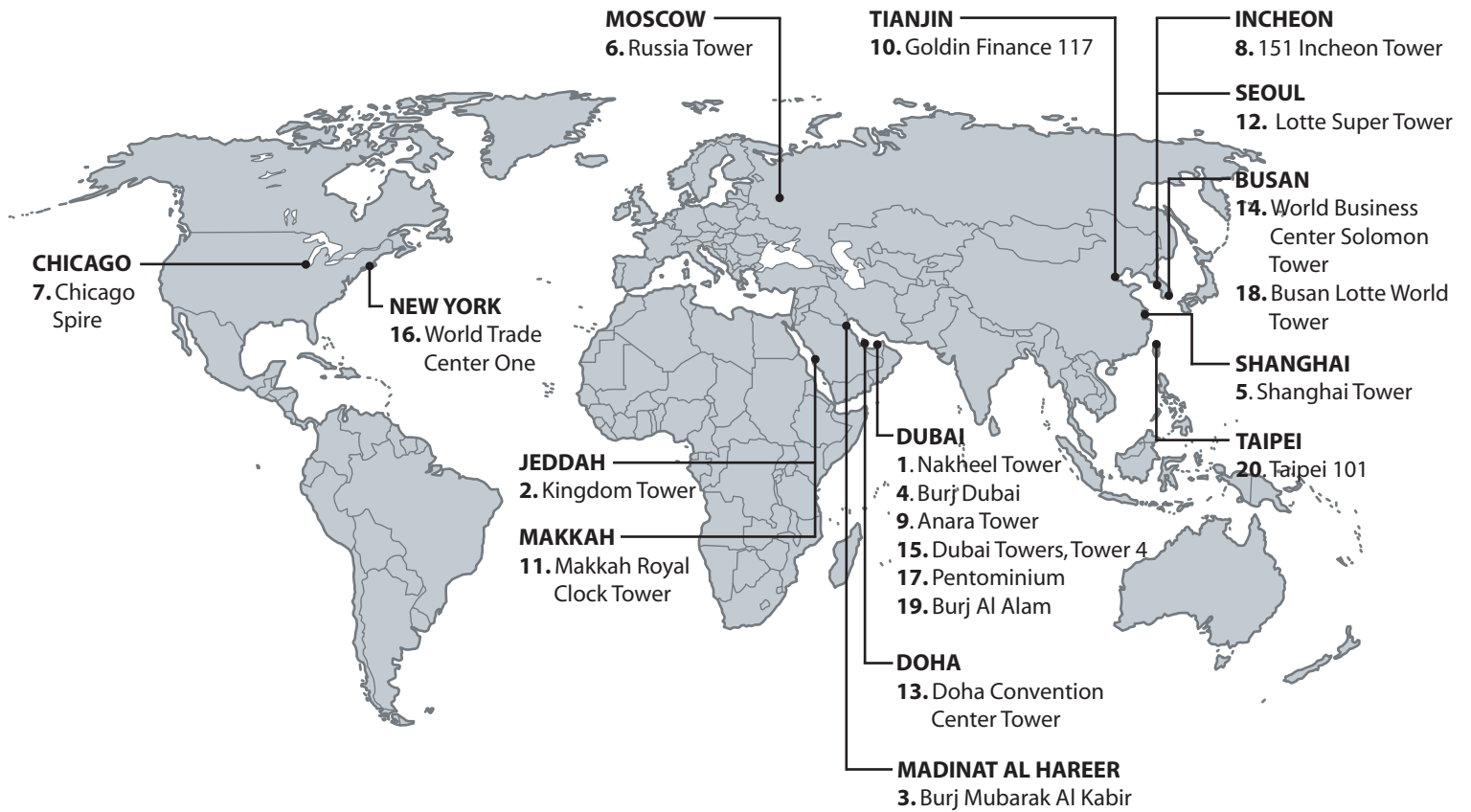


Building Name/Location	Hgt (m/ft)	Floors
 1. Nakheel Tower (Under Construction - Foundation Works) Dubai, UAE Developer: Nakheel Architect: Woods Bagot Structural: WSP / Leslie E. Robertson Associates RLLP / VDM Group MEP: Norman Disney & Young Photo: Nakheel PJSC	1000+ / 3281+	200+
 2. Kingdom Tower (Proposed) Jeddah, Saudi Arabia Developer: Kingdom Holding Company Architect: Pickard Chilton / Omrania & Associates Structural: Arup / Hyder Consulting / Omrania & Associates MEP: Arup / Hyder Consulting / Omrania & Associates Photo: Saudi Guy / Skyscrapercity.com	1000+ / 3281+	150+
 3. Burj Mubarak Al Kabir (Proposed) Madinat Al Hareer, Kuwait Developer: Tamdeen Real Estate Company / Government of Kuwait Architect: Eric R Kuhne & Associates Structural: WS Atkins & Partners / RFR Ingénieurs MEP: WS Atkins & Partners Photo: Civicarts / Eric R Kuhne and Associates	1001 / 3284	234
 4. Burj Dubai (Under Construction - Approaching Topping Out) Dubai, UAE Developer: Emaar Properties Architect: Skidmore, Owings & Merrill LLP Structural: Skidmore, Owings & Merrill LLP MEP: Skidmore, Owings & Merrill LLP Photo: Marshall Gerometta / CTBUH	800+ / 2600+	160+

Building Name/Location		Hgt (m/ft)	Floors
	5. Shanghai Tower (Under Construction - Foundation Works) Shanghai, China	632 / 2073	128
<p>Developer: Shanghai Tower Construction & Development Co., LTD. Architect: Gensler / Architectural Design and Research Institute of Tongji University Structural: Thornton Tomasetti MEP: Cosentini Associates Photo: Gensler</p>		<p>Year of Completion: 2014 Use: Retail / Exhibition / Office / Hotel Structural Material: Composite</p>	
	6. Russia Tower (Under Construction - Foundation Works) Moscow, Russia	612 / 2008	124
<p>Developer: Russian Land (STT) Architect: Foster + Partners Structural: Halvorson & Partners / Waterman Group PLC MEP: Waterman Group PLC Photo: Foster + Partners</p>		<p>Year of Completion: 2012 Use: Office / Hotel / Residential Structural Material: Composite</p>	
	7. Chicago Spire (Under Construction - Foundation Works) Chicago, USA	610 / 2000	150
<p>Developer: Shelbourne Development LTD Architect: Santiago Calatrava S.A. / Perkins + Will Structural: Santiago Calatrava S.A. / Thornton Tomasetti Engineers MEP: Cosentini Associates Photo: Shelbourne Development / Santiago Calatrava</p>		<p>Year of Completion: 2013 Use: Residential Structural Material: Composite</p>	
	8. 151 Incheon Tower (Proposed) Incheon, South Korea	600 / 1969	151
<p>Developer: Portman Holdings / Samsung C&T Corporation / Hyundai E&C / SYM-Associates Architect: John Portman & Associates Structural: Thornton Tomasetti MEP: Syska Hennessey Group Photo: John Portman & Associates</p>		<p>Year of Completion: 2014 Use: Retail / Office / Hotel / Residential Structural Material: Composite</p>	
	9. Anara Tower (Proposed) Dubai, UAE	600 / 1969	135
<p>Developer: Tameer Holdings Architect: WS Atkins & Partners Structural: WS Atkins & Partners MEP: WS Atkins & Partners Photo: WS Atkins & Partners (Overseas) Ltd.</p>		<p>Year of Completion: 2013 Use: Office / Residential / Hotel Structural Material: Composite</p>	
	10. Goldin Finance 117 (Under Construction - Foundation Works) Tianjin, China	600 / 1969	117
<p>Developer: Goldin Properties Holdings Limited Architect: P&T Group Structural: Arup MEP: Parsons Brinckerhoff Photo: Goldin Properties Holdings Limited</p>		<p>Year of Completion: 2013 Use: Retail / Office / Hotel Structural Material: Composite</p>	
	11. Makkah Clock Royal Tower (Under Construction - Approx 300m High) Makkah, Saudi Arabia	577 / 1893	100+
<p>Developer: Saudi Bin Laden Group Architect: Dar al-Handasah Shair & Partners Structural: Dar al-Handasah Shair & Partners MEP: Dar al-Handasah Shair & Partners Photo: Dar al-Handasah Shair & Partners</p>		<p>Year of Completion: 2011 Use: Hotel Structural Material: Concrete</p>	
	12. Lotte Super Tower (Proposed) Seoul, South Korea	555 / 1821	112
<p>Developer: The Lotte Group Architect: Skidmore, Owings & Merrill LLP Structural: Skidmore, Owings & Merrill LLP MEP: WSP Flack & Kurtz Photo: Skidmore, Owings & Merrill LLP (c) SWIM by the 7th Art</p>		<p>Year of Completion: 2014 Use: Retail / Office / Hotel / Residential Structural Material: Composite</p>	

Building Name/Location		Hgt (m/ft)	Floors
	13. Doha Convention Center Tower (Under Construction - Foundation Works) Doha, Qatar	551 / 1808	112
<p>Developer: Qatari Diar Real Estate Investment Company Architect: Murphy/Jahn Architects Structural: Magnusson Klemencic Associates / Hyder Consulting / Werner Sobek Ingenieure MEP: Arup / Hyder Consulting Photo: Murphy/Jahn LLC</p>		<p>Year of Completion: 2012 Use: Office / Residential / Hotel Structural Material: Concrete / Steel</p>	
	14. World Business Center Solomon Tower (Proposed) Busan, South Korea	550 / 1804	123
<p>Developer: Solomon Group Architect: Asymptote Architecture Structural: Arup MEP: Arup Photo: Asymptote: Hani Rashid + Lise Anne Couture</p>		<p>Year of Completion: 2013 Use: Office / Residential Structural Material: Composite</p>	
	15. Dubai Towers, Tower 4 (Proposed) Dubai, UAE	550 / 1804	97
<p>Developer: Sama-ECH Architect: tvsdesign Structural: Arup MEP: Environmental Systems Design, Inc Photo: tvsdesign</p>		<p>Year of Completion: 2011 Use: Office Structural Material: Composite</p>	
	16. World Trade Center One (Under Construction - Approx 10m High) New York, USA	541 / 1776	105
<p>Developer: 1 World Trade Center LLC / Port Authority of New York & New Jersey Architect: Skidmore, Owings & Merrill LLP Structural: WSP Cantor Seinuk Group / Schlaich Bergermann und Partner GbR MEP: Jaros Baum & Bolles, Inc Photo: dbox Studio</p>		<p>Year of Completion: 2012 Use: Office Structural Material: Composite</p>	
	17. Pentominium (Under Construction - Foundation Works) Dubai, UAE	516* / 1693*	122
<p>Developer: Trident International Holdings FZCO Architect: Aedas Architects Structural: Hyder Consulting MEP: Hyder Consulting Photo: Aedas Ltd</p>		<p>Year of Completion: 2012 Use: Residential Structural Material: Concrete / Steel</p>	
	18. Busan Lotte World Tower (Proposed) Busan, South Korea	510 / 1675	110
<p>Developer: The Lotte Group Architect: Skidmore, Owings & Merrill LLP Structural: Skidmore, Owings & Merrill LLP MEP: Syska Hennessy Group Photo: Skidmore, Owings & Merrill LLP (c) Gemsvale</p>		<p>Year of Completion: 2013 Use: Retail / Office / Hotel / Residential Structural Material: Concrete</p>	
	19. Burj Al Alam (Under Construction - Foundation Works) Dubai, UAE	510 / 1673	108
<p>Developer: Fortune Group Architect: Nikken Sekkei / Engineering Consultants Group Structural: Arup MEP: Arup Photo: Nikken Sekkei Ltd.</p>		<p>Year of Completion: 2011 Use: Retail / Office / Hotel Structural Material: Composite</p>	
	20. Taipei 101 (Completed in 2004) Taipei, Taiwan	509 / 1670	101
<p>Developer: Taipei Financial Center Corporation Architect: C. Y. Lee & Partners Structural: Evergreen Consulting Engineering / Thornton Tomesetti MEP: Lehr Consultants International / Continental Engineering Consultants Photo: Taipei Financial Center Corp.</p>		<p>Year of Completion: 2004 Use: Office Structural Material: Composite</p>	

Locations: The Tallest 20 in 2020



Criteria: The Tallest 20 in 2020

Buildings included in the CTBUH 'Tallest 20 in 2020' are either a) completed, b) under construction, or c) considered real proposals.

a) When is a tall building considered to be 'completed'?

A completed building can be considered such if it fulfills *all* three of the following criteria: 1) topped out structurally and architecturally, 2) fully-clad, 3) open for business, or at least partially occupied

b) When is a tall building considered to be 'under construction'?

A tall building is considered to be 'under construction' when site clearing has been completed and foundation / piling work has begun.

c) When is a tall building considered to be a 'real' proposal?

A 'real' proposed tall building can be considered such if it fulfills *all* of the following criteria: 1. Has a specific site, 2. Has a developer / financier who owns the site, 3. Has a full professional design team who are in the process of progressing the design beyond the conceptual stage, 4. Has a dialogue with the local planning authorities with a view to obtaining full legal permission for construction, 5. Has a full intention to progress the building to construction and completion.

How is the height of The Tallest 20 in 2020 measured?

Height is measured from sidewalk level outside the main entrance to the architectural top of the building, including spires, but not including antennae, signage or flag poles.

Usage

A single-function tall building is defined as one where 85% or more of its total floor area is dedicated to a single usage. A mixed-use tall building contains two or more functions, where each of the functions occupy at least 15% of the tower's total floor area. Ancillary / support areas such as car parks and mechanical plant space do not constitute mixed-use functions. Functions are denoted in ascending order, e.g. 'office / hotel' indicates hotel function above office function.

Structural Material

A steel tall building is defined as one where the main vertical and lateral structural elements and floor systems are constructed from steel. A concrete tall building is defined as one where the main vertical and lateral structural elements and floor systems are constructed from concrete. A composite tall building utilizes a combination of both steel and concrete in the main structural elements throughout the building. A concrete/steel tall building indicates a steel structural system located above a concrete structural system, with the opposite true of a steel/concrete building.

Additional Notes:

1. If a tall building is of steel construction with a floor system of concrete planks on steel beams, it's considered a steel tall building.
2. If a tall building is of steel construction with a floor system of a concrete slab on steel beams, it's considered a steel tall building.
3. If a tall building has steel columns plus a floor system of concrete beams, it's considered a composite tall building.

For a more complete overview of the CTBUH's height criteria see www.ctbuh.org/criteria.htm

* Some sources list the Pentominium height at 618m / 2028ft, which includes a spire. Despite this, the official height released by the developer and design team is 516m / 1693ft.