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# Polycentric Cities: The Future of Vertical Urbanism

## Abstract

*As we approach the new normality of cities housing 10 million or more inhabitants, those best positioned for the future are evolving along polycentric, multi-nodal lines, with several central business districts, ideally all offering something slightly different to the urban inhabitant. When focused around transit nodes and well-planned infrastructure, embracing high density, public space and civic functions, this amalgamation of “several cities within a city” perhaps offers the best opportunity for a sustainable future for the many millions of people who will move into cities over the coming decades. The 2018 CTBUH Conference debates the merits and challenges of this multi-nodal approach to urbanism, and to understand and envision how tall buildings, density, infrastructure and people fit into this vital mix, as well as other critical issues facing the tall building industry. The following pages contain highlights of the program.*

**Keywords:** Urban Planning, Urban Design, Vertical Urbanism, Urban Infrastructure

## Developing Polycentric Cities in the Middle East

**Opening Plenary:**  
*Polycentric Developments in the Middle East*  
Sunday 21 October



Mounib Hammoud,  
CEO, Jeddah Economic  
Company

Reflecting on more than 30 years of personal experience in land and real estate development throughout the Middle East, this presentation relays the drivers behind the region's move toward polycentric urban development, through then exploration of several case studies. Stops along the way include the reconstruction of Beirut's city center around nine unique activity areas, a project comprising 191 hectares, including 73 hectares reclaimed from the sea. With marinas, open views to sea and mountains, and a planned city park, the Beirut Waterfront District is envisioned as an integrated and sustainable urban

environment. The Beirut project incorporates a triple-A office tower of the highest international standards, with a large podium, as a contemporary interpretation of the porous urbanism that creates the unique character of the Middle Eastern souk with its sheltered passageways.

The story embraces Al Zorah, the premier mixed-use and hospitality destination in Ajman, UAE, comprised of five distinct neighborhoods, where some 60% of the land area is devoted to open space. Next, it takes us to Jeddah, Saudi Arabia, where the Golden Tower is rising as a new landmark on the city's famed Corniche. With a sense of space and openness, maximized through expansive views of the sea and local urban scenes, the tower caters to a modern luxurious lifestyle while remaining rooted in the local culture through its attention to privacy. The story continues with detailed insights about developing fully-fledged, culturally and environmentally balanced communities.

## The Future of Tall Building Technology

**Plenary 3: 50 Forward, 50 Back**  
Monday 22 October



William Baker, Partner,  
Skidmore, Owings & Merrill

Since their earliest form, tall buildings have stood as technological marvels, reflecting the latest advancements in materials, methodologies, and tools. The Home Insurance Building

(William Le Baron Jenney, 1884) was guided by new innovations in structures and vertical transportation to reach unprecedented 10-story heights to become the world's first skyscraper. These two technologies continue to be the leading drivers of tall buildings today, though the continuous interest in constructing taller and taller buildings in various climates and locations throughout the world has led to the ongoing development of new technologies, specialties, and social considerations that have the potential to transform the buildings of the future.

“We need to rethink the skyscraper, not as a hermetic, isolated landmark, but as a building that responds to the specificities of its urban and social context.”

– Ole Scheeren, Principal, Buro Ole Scheeren

Increasingly sophisticated optimization tools, software, physical testing capabilities, and building materials are advancing and refining design processes and practices. Evolving methods for assessing the sustainability and performance of a tall building; its impact and integration with the local urban context; and the role it has in the quality of its occupants' lives, work together to inform a building's

design. In addition to operational energy concerns and high-performance design, the role of embodied carbon is beginning to attract the critical level of attention that it deserves.

## The Skyscraper as Social Organism

Plenary 3: 50 Forward, 50 Back  
Monday 22 October



Ole Scheeren, Principal,  
Buro Ole Scheeren

As hyper-growth increasingly calls for high-density living and working, we need to rethink the skyscraper, not as a hermetic, isolated landmark, but as a building that responds to the specificities of its urban and social context. Rather than reinforcing stratification and hierarchical systems, the skyscraper needs to go beyond vertical dominance and explore spatial qualities that allow for greater social interaction and cohesion. This presentation examines eight overarching topics relevant to tall buildings and the future of our cities:

**ORGANISM** – How can we understand the skyscraper as an organic life-form (not simply built matter) and explore organizational structures of functional, yet socially interconnected, entities? **SCALE** – How can we reconnect the scale of the skyscraper to that of the human being? **CONTEXT** – How can the skyscraper go beyond being a self-referential singularity and re-establish context and cohesion as a system of urban inclusivity? **HORIZONTALITY** – How can a skyscraper (sometimes) no longer be a skyscraper and can how it can become a construct of spatial and social connectivity? **VERTICALITY** – How can a skyscraper create a space of three-dimensional engagement within (or against) its vertical predetermination? **RE-USE** – How can existing substance be re-imagined to breathe new life into old cities? **FANTASY** – How can a skyscraper become a space of exploration and memory, and engage our fantasy and imagination? **CLOUD** – How can we turn the skyscraper into a collaborative world of physical (and digital) connectivity and social exchange?

## Dubai Creek Tower, Dubai



Santiago Calatrava

The Dubai Creek Tower's monumental design is influenced by the natural forms of the lily and evokes the shape of a minaret, a distinctive architectural feature in Islamic culture. It is on

track to become one of the tallest man-made structures on earth. The tower combines modern, sustainable design with the rich culture and heritage of the United Arab Emirates (UAE). The tower's numerous observation decks are part of an elongated, oval-shaped "bud" at the top of the tower. The slender stem serves as the spine of the structure, and the cables linking the building to the ground are reminiscent of the delicate ribbing of the lily's leaves. At the same time, they represent the UAE's welcome to the world. This project is inspired by the goal of making this space a meeting point for citizens, not only from Dubai and the UAE, but from around the world. It is a symbol of belief in progress.

**Completion Date:** 2021 (expected)

**Height:** 1,300 m (estimated)

**Function:** Observation Tower



Dubai Creek Tower, Dubai. © Emaar Properties



## Polycentric vs. Monocentric: The Future of Vertical Urbanism?

Plenary 2 Panel Discussion  
Monday 22 October



**Americas:** James Parakh, Urban Design Manager, City of Toronto Planning Dept.



**Asia:** Dr. Cheong Koon Hean, CEO, Housing & Development Board, Singapore



**Australia:** Helen Lochhead, Dean, Faculty of Built Environment, UNSW Sydney



**Europe:** Peter Murray, Chairman, New London Architecture Centre



**Middle East:** Mohammad Kaiser Azad, Head of Community Management, Emaar Properties, Dubai

At this significant point in the history of urban development, cities are at a crossroads. They are facing questions of how to optimally organize resources, infrastructure and population, and account for the potential of greatly disruptive technological and climatic change. Among these questions is whether the monocentric or polycentric model is preferable, and under what conditions?

This panel discussion considers the merits of both the polycentric and monocentric approaches to urban development, with views from both sides of the equation from renowned urbanists representing each global region. International in nature, the panel gives a view on how cities should be developed, amidst a world that is rapidly urbanizing.



SRG Tower, Dubai. © Killa Design



## SRG Tower, Dubai



Shaun Killa

As a result of growing populations and the increasing concentration of people living in urban areas, the Middle East – and specifically, the UAE – has embraced the tall building as an important aspect of city life. This reality has introduced a new scale to Middle Eastern architecture, one that requires heightened levels of expertise, the application of new technologies, and a robust understanding of the region's climate and culture in order to be successful. In a region where historical architectural traditions have emphasized the importance of ecological systems, cultural practices, climatic impacts, and religion, there is a wealth of knowledge from which to draw when applying these traditions to the skyscraper typology.

On a very small plot in Downtown Dubai, the SRG Tower will stand at 471 meters tall with 111 stories. It features a structural diagrid system on its perimeter, the protrusions of which not only increase the amount of leasable floor area for the building, but shade the façade to reduce solar heat gain and cooling load demand. The tower also incorporates two 31-meter-diameter wind turbines, integrated at the crown of the tower, which will harness the area's high winds to generate on-site renewable energy. Meanwhile, wind loads are reduced through the introduction of double-height garden floors, which reduce governing wind loads and provide quality outdoor space for inhabitants.

**Completion Date:** 2022 (expected)

**Height:** 471 m

**Stories:** 111

**Area:** 115,000 m<sup>2</sup>

**Function:** Residential

## Beauty and Finance: Post-Mannerism in Skyscraper Design

*Plenary 3: 50 Forward, 50 Back*  
Monday 22 October



Gregg Pasquarelli,  
Principal, SHoP Architects

Building design and development started with small-scale conceptual research projects where inspiration and effectiveness, art and technology, and beauty and finance not only co-existed, but fueled each other. Now the same interdisciplinary design techniques are being used on large-scale, complex projects around the globe. New programmatic affiliations and performative requirements are leading to more transgressive, innovative forms, all executed using traditional building materials fabricated through cutting-edge technology.

In order to develop new technologies and progress the tall building industry through

best practices, unique collaborative working methods, humanist values, and the identification of ideal material expression to support and elevate building inhabitants are vital goals to achieve. This process is well-illustrated by the experience of designing and executing the Barclays Center, the American Copper Buildings, and the two supertalls currently under construction at 111 West 57th Street and 9 DeKalb Avenue in New York.

## Cities 2070: What is Truly Sustainable?

*Plenary 3: 50 Forward, 50 Back*  
Monday 22 October



Antony Wood, CTBUH  
Chief Executive Officer

The early 21st century marked a watershed moment in which the world recognized the importance of "sustainable" thinking, where the long-term effects of human

activities became a consideration in decision-making, and the prospects of a future society operating in harmony with the natural environment seemed possible. The development trajectory of many cities changed course, with a focus on reducing emissions and energy usage, and a heightened consciousness surrounding the lifecycle impacts of industrial activities and consumption. Against this backdrop, the inherent sustainability of the tall building – and dense urban growth at large – has been debated extensively.

This trend towards greater urban sustainability has been challenged recently, on a geo-political level, with several commitments to combat climate change reneged on. Against this backdrop, there is also a bigger question: what if cities become inherently unviable in the future due to their geographic location and the increasing effects of climate change? The severity of devastating climatic events presents a clear risk to many of the world's biggest cities. In this respect, the



sustainability of individual buildings in those places becomes a moot point, if the city itself is unviable. We must therefore confront the environmental realities threatening the long-term existence of a city before we can demonstrate truly sustainable building typologies.

Expanding on the Closing Keynote from the CTBUH 2017 Australia Conference, this presentation charts patterns in urban growth globally, before discussing the future viability of cities around the world. In showcasing theoretical design work from academic studios convened over a number of years at the Illinois Institute of Technology, the material explores alternative urban futures that embrace density while navigating local environmental conditions across disparate regions.

## Sustainability in High-Rise Cities

*Session 3H: High-Rise Real Estate: The Big Picture*  
Sunday 21 October



William Hellmuth,  
Chairman + CEO, HOK

It is still fundamentally true that skyscrapers are “built equations” that “make the land pay,” but the inputs to that equation are fundamentally changing along with workforces,

transportation, and technology. Expectations for a high-rise’s relationship with the broader community, with occupiers, and with technologies are all changing, and becoming more demanding. Some of the industry’s greatest challenges come from the increasing value society places on sustainability. The skyscraper has a fundamentally sustainable spatial advantage, in the sense of its ability to place more people on a smaller plot of land. But of course, it must go farther than this.

One example from the Middle East region, where the harsh climate makes sustainable skylines particularly hard to achieve, can

nevertheless be found in Abu Dhabi. The ADNOC Tower performs at an EUI (energy use intensity) of 45 kBtu/SF/year, while the median for commercial buildings in all climates is 50-55 kBtu/SF/year. The Tower saves over 2.5 million gallons (9.4 million liters) of water a year (40%). ADNOC’s height allows more than one third of its site area to be given back to the community as public parkland, which is vegetated with native plants and provides a comfortable microclimate, mitigating urban heat island effect. The use of solar orientation, high-performance envelopes and integrative design can achieve sustainable performance and connect the tall building to its regional context.

## Polymorphic Towers

*Session 6D: Polycentrism at the Site Scale*  
Monday 22 October



Ross Wimer, Senior Vice  
President, AECOM

The image of a simple rectangular extrusion as the optimal tall building form has persisted for many years. Extruded forms work well for single-program towers, but for towers

that will house a number of uses, more complex geometries can create a better fit between form and program. The sophisticated digital tools at our disposal first led to images of complex geometries

## One Za’abeel, Dubai



Kazushi Obika

Urban land will only become scarcer, and ever-more creative approaches will be necessary in order to return projects of lasting value and iconic power. Such is the case at One

Za’abeel, where the development lot is split by an elevated highway. The solution – a dramatic multi-story skybridge linking two substantial towers together, over the highway, more than 25 stories and 100 meters in the air, forming a distinctive gateway and unifying the project as a whole. This conceptually simple diagram is not simple to execute in construction.



**Kazushi Obika**, General Manager,  
Nikken Sekkei on One Za’abeel in  
the Dubai Off-Site Program:  
Constructing an Inter-Tower  
Skybridge Over a Highway,  
Tuesday 23 October

**Completion Date:** 2021 (expected)  
**Height:** 330 m (Tower 1) / 235 m (Tower 2)  
**Stories:** Confidential  
**Area:** Confidential  
**Function:** Office (Tower 1)/Residential/Hotel (Tower 2)



One Za’abeel, Dubai. © Ithra Dubai

“Iconic shopping districts, equivalent to Barcelona’s Las Ramblas, may soon exist 60 stories above ground level.”

– Jaron Lubin, Principal, Safdie Architects

## Mashreq Bank Headquarters, Dubai



Brian Kleiver

The dramatically cantilevered top section of the Mashreq Bank Headquarters is turning heads of all who travel near the Dubai Mall, even before the completion of construction. This section will contain the

boardroom and ancillary meeting spaces of the bank, but the carved volume of the overall tower also assures that office units on either side of the tower will enjoy natural sunlight and protection from solar gain. On the ninth floor, atop the podium, a landscaped palm garden beckons to occupants of the common building cafeteria, more than 25 stories below the projecting boardroom.



Mashreq Bank Headquarters, Dubai. © SOM

**Completion Date:** 2019 (expected)

**Height:** 151 m

**Stories:** 36

**Area:** 71,292 m<sup>2</sup>

**Function:** Office



**CTBUH 2018**  
International Conference

Brian Kleiver, Associate, Skidmore, Owings & Merrill will present Mashreq Bank Headquarters at the Dubai Off-site Program: *Constructing a Carved & Cantilevered Office Tower*, Tuesday 23 October.

in tall buildings. Now that the construction industry has adopted a more digitally-driven approach, we are seeing built projects that are far more sculpturally ambitious than previously possible. We are currently using parametric software to create sculptural forms that respond optimally to varied programs. There are multiple benefits of a polymorphic tower form. In addition to optimizing the plans of the towers, we work with the shape to optimize their environmental performance and their structural systems. The ability to fine-tune the tower form can benefit wind

performance and allow the façade to shade itself.

Four supertall polymorphic towers, located in New York, Chicago, Shenzhen, and Xi'an, provide useful examples. The programs for the towers include office, hotel, residential and retail uses. Each program has slightly different lease-span dimensions and demand for daylight. Those differences help define the form and articulation of the tower. The resulting tower designs show a range of possibilities for shapes that are expressive, but ultimately driven by performance.

## The Evolution of the SkyPark Since Marina Bay Sands

Session 3C: Designing the Skybridge:

Connecting Skyscrapers

Sunday 21 October



Jaron Lubin, Principal, Safdie Architects

While bridging between tall buildings has been explored for many years, it was the Marina Bay Sands SkyPark in Singapore that elevated the approach to a “typology.” The SkyPark became a prominent showcase for the public to see and experience what the profession already knew – that placing public activities “in the air” not only affords unique experiences, but is a very achievable and sustainable means of densifying the city. With the “how” behind us, we must now evaluate this typology’s impact and explore how the act of interconnecting buildings – aggregating a diversity of program, activities, and usages at a high level – can, and should, influence the design of cities. Iconic shopping districts, equivalent to Barcelona’s Las Ramblas, may soon exist 60 stories above ground level, as an example. While the act of experiencing more of the city from a high point is exciting, it also challenges the definition of the public realm as we know it, as we begin to network spaces between privately-owned towers and shared communal spaces at multiple levels. These discussions are expanding beyond the design and construction industry, and into the realm of city policy makers and other stakeholders.

## Architecture and Urban Forestry

Session 4E: Tall Timber: Europe

Sunday 21 October



Yibo Xu, China Partner, Stefano Boeri Architetti

The crucial questions that concern humanity, the ones that can no longer be evaded, are extreme poverty and the environment. Tackling them means trying to come up with responses to the difficult challenges of this age: the integration of new urban populations, the

redistribution of wealth, and the effect of climate change on living conditions and our survival. Policies on cities, on metropolises, and on the urban condition planet-wide are crucial, and today should be the responsibility of all of us. Our role as architects is to act as sensors of the future, anticipating what will happen and helping to formulate responses and solutions. It is also our duty to tempt the present with our ideas and our designs, and in a way, nudge it into revealing its potentialities, its futures.

If we start from the fact that cities produce 75% of the CO<sub>2</sub> emitted, and forests by themselves absorb about 35% of it, it becomes clear why the presence of woods in the city is now indispensable. Among the policies that go hand-in-hand with the theme of urban forestation, there are several approaches. The first is the possibility of applying grafts of biodiversity in the city, as was done with the experiment of the Vertical Forest (Bosco Verticale) in Milan. Bosco Verticale is a prototype that has allowed us to adjust our way of seeing things, based on a study of the behavior of the residents, the vegetation and the building, in order to propose an improved version of the same solution in other cities.

## ICD Brookfield Place, Dubai



Rob Devereux

The ambitious Dubai International Financial Centre (DIFC) district is a financial hub for the Middle East, Africa and South Asia, with its own independent regulator and judicial system. As one of

Dubai's more established "polycenters," DIFC debuted with The Gate building in 2004. The 110-hectare district now supports more than 21,000 workers with a complete set of infrastructure and amenities that is constantly being augmented. At its center, the 282-meter ICD Brookfield Place, which is to feature internal gardens and "sky view suites" with 6-meter-plus ceilings on the top three floors, is now under construction.



**Rob Devereux**, CEO, ICD Brookfield Management will present on ICD Brookfield Place in Dubai Off-Site Program: *Gateway to Growth: The Dubai International Financial Centre*, Tuesday 23 October.



ICD Brookfield Place, Dubai. © ICD Brookfield Place

**Completion Date:** 2019 (expected)  
**Height:** 282 m  
**Stories:** 54  
**Area:** 83,613 m<sup>2</sup>  
**Function:** Office/Retail

## What Will the Future High-Rise Occupier Want?

Session 7H: Panel Discussion  
 Monday 22 October



<b>Panel Chair:</b> Charu Thapar, Head of Strategy and Platform, Jones Lang LaSalle, Inc.	<b>Angela Chang</b> , President, Taipei Financial Center Corp.	<b>Robin Fiala</b> , Vice President, Otis Elevator Company	<b>Trevor Hardwick</b> , COO, Select Group	<b>John Lumpkin</b> , Executive Managing Director, Cushman & Wakefield
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The "demand curve" for high-rise occupiers is becoming more difficult to predict. How can developers and managers start planning today in anticipation of the challenges of tomorrow? What "clues" can we find in today's

emerging trends that might inform the design and operational decisions we make in the near future? A panel of experts debates the potential needs and accommodations of the future high-rise occupier.

## The End of Real Estate Development as We Know It?

Session 3H: High-Rise Real Estate: The Big Picture  
 Sunday 21 October



William Murray, Director/Owner, Wordsearch

The world is changing rapidly, and with it our expectations of how places function, of whom they are for and why we spend time in them. Our working practices have changed, and with it our expectations of when and where we work. More of us are living in cities, where we have traditionally sought greater anonymity, whilst now we crave greater social connection and meaning.

Traditional development and design practices are organized to deliver bricks and



“Just as WeWork is beginning to disrupt our idea of what an office developer looks like, so another way of thinking could similarly change the rest of the tall building industry.”

– William Murray, Director/Owner, Wordsearch

## Palm Tower, Dubai



Sasa Popovic

The Palm Tower, designed to be the centerpiece of the Palm Jumeirah development, is a mixed-use luxury hotel and residential building destined to become an iconic landmark in Dubai's skyline. The

architectural concept was inspired by observing how a group of people gather under the protection of the shade of a palm tree. A collection of palm trees in ancient times provided a meeting point for traders, families and the community, as it created a natural micro climate.

The Palm Tower, standing as a beacon in the middle of the Palm Jumeirah's entryway, flourishes as a palm leaf where the façades blossom at the top of the building. The glass façades peel off and blooms at the top to unveil “the fruit” located in the sky. The petal, which houses the highest panoramic restaurant on the Palm, will provide visitors with an exclusive dining experience in the sky. Amenities of Palm Tower's residences are also located near the building's crown, including a unique 360-degree infinity swimming pool. The façade symbolically represents the thick canopy of gorgeous bluish-green pinnate leaves that the palm tree features. The leaf sharp spines at their base, rising upward from the entrance of the hotel.

mortar, not places, experiences, or customer-focused products. The process generally begins with a site, progresses through feasibility, design, and construction, before place and customer are properly considered. The result is generic design and self-serving developments that are inauthentic and unpopular. As our urban odyssey continues, and as increasing density and height become inevitable, we need to think ever more carefully about what sort of



Palm Tower, Dubai. © Nakheel



**Completion Date:** 2019 (expected)  
**Height:** 232 m  
**Stories:** 52  
**Area:** 82,258 m<sup>2</sup>  
**Function:** Residential, hotel

places, communities, and cities we want and need to make.

If the real estate industry doesn't adapt at lightning speed, then it will be out of place with the world's wants and needs. As the technology industry has demonstrated, that is the point at which a new model could be created. Just as WeWork is beginning to disrupt our idea of what an office developer looks like, so another way of thinking could similarly change the rest of the industry.

## The Adaptive Role of Tomorrow's Smart Buildings

Session 3B: Smart Cities  
 Sunday 21 October



Peter Halliday, Head of Building Performance & Sustainability, Siemens

The journey towards highly adaptive mixed-use tall buildings that can actively contribute to the success of its owners, tenants, and employees – and it is already underway. As smart buildings become more

adaptive, the structures will have the ability to help create competitive advantages for their stakeholders in numerous ways.

These towers will, first and foremost, decrease bottom-line financial performance through reduced CAPEX and OPEX (capital and operating expenses, respectively), the creation of new revenue streams and the enhancement of existing ones, and aid in real-estate investment decisions. Thoughtful, technology-integrated design will also reduce risks, ensure safety and security, and provide smart spaces that improve employee productivity, as well as the well-being and enjoyment of employees or visitors. Given these advancements, highly adaptive buildings are bound to attract and retain the best tenants, employees, and customers, while contributing to the sustainable reputation of their owners. This presentation outlines the highly adaptive buildings that will begin to surface in urban communities,

and, using strategic data collection and analysis, presents methods to optimize competitive advantages.

## Just What Is It That Makes Tomorrow's Workplace So Different, So Appealing?

Session 6H: Internal Considerations  
Monday 22 October



Eric Parry, Founder  
& Principal, Eric Parry  
Architects

What will tomorrow's great workplaces look like? Plan Libre versus Raumplan? What is the role of public access to high places civic versus corporate agendas? Because of protected viewing corridors, a new planning and development strategy was devised for the City [of London] that would be permissive and encouraging to developers but rather autocratic in its choice of architects. The vexed question of the city skyline and who determines it is ever present because tall buildings are inescapable – as Roland Barthes's opening quotation in his 1964 essay "The Eiffel Tower" makes clear: "Maupassant often lunched at the restaurant in the tower, though he didn't care much for the food: 'It's the only place in Paris,' he used to say, 'where I don't have to see it.'"

Through the vehicle of several key projects underway in London, this presentation explores the myths and truths of technological transcendence and the impact of changing technology on work patterns and examines questions of accommodating difference in the public and private sphere. Among the examples is 1 Undershaft, which seeks to resolve the gap between an autonomously formed skyscraper and another whose form was heavily dictated by viewing corridors of St. Paul's Cathedral.

As a group, they lack a central building to settle the existing and future choreography of tall buildings. Poor developments can leave scars like meteor strikes on the medieval street pattern; thus, topics for discussion include the importance of

## Al Wasl Tower, Dubai



Holger Hinz

Al Wasl Tower, a slender 302-meter-tall mixed-use skyscraper in downtown Dubai, fuses a regional style with cutting-edge concepts for accessibility, sustainability, and user comfort. A comfortable outdoor microclimate is ensured through the combination of outdoor landscape, vegetation, and passive systems. A smart structural concept leads to a highly efficient floorplan. Thanks to an optimized geometry, wind loads are reduced by 20%. Consequently, the size of structural components is reduced considerably, leading not only to a slender appearance, but also to substantial savings in building materials. On the façade, a fine lace of inclined ceramic fins not only provides shade, but also reflects daylight deep into the interior.

Al Wasl Tower will be the highest building in the world using ceramic fins. The feature uses a traditional regional construction material, but interprets it in an innovative way, thus creating a link between past, present, and future. Photovoltaic and solar thermal panels produce clean energy. The surrounding landscape is irrigated by use of grey return water. A heat pump further contributes to reducing power consumption and the tower's carbon footprint.

context; and the assertion that a sense of well-being begins well before getting to work. The designer's responsibility is to enhance context, both in terms of cultural resonances and environmental conditions. Also explored is the importance of mediating



Al Wasl Tower, Dubai © Plompmozes

**Completion Date:** 2019 (expected)  
**Height:** 302 m  
**Stories:** 63  
**Area:** 106,534 m<sup>2</sup>  
**Function:** Residential / hotel / office



scale. Between the skyline and the pavement, maintaining orientation while navigating complex sections and plan relationships is critical. The individual and the role of collective communicative spaces are also examined. ■



### Editor's Note:

A comprehensive guide to all the Conference presentations can be found in the **2018 Conference Proceedings**, available at the Conference and on the CTBUH Web Shop at [store.ctbuh.org/2018-middle-east-proceedings](http://store.ctbuh.org/2018-middle-east-proceedings).