TWENTY-FIVE SKYSCRAPERS BY LEADING ARCHITECTS AND ENGINEERS SHOWCASE INNOVATION AND PROLIFERATION OF HIGH-RISE DESIGNS

Renderings, Photographs, Drawings, and Large-Scale Models Represent Designs—Built and Unbuilt—for Sites around the World

Tall Buildings
July 16–September 27, 2004
The Museum of Modern Art, Queens

NEW YORK, July 14, 2004—The Museum of Modern Art presents *Tall Buildings*, showcasing the newest innovations in skyscraper design by some of the world's leading architects and engineers. The exhibition focuses on the inventive responses to recent technological breakthroughs, new programmatic and functional needs, and evolving concepts of the urban role of tall buildings as seen in 25 high-rise projects for sites around the world. From the shortest building, Edificio Manantiales in Santiago, Chile (187 ft.; 57 m), to the tallest, Chicago's proposed 7 South Dearborn (2,000 ft.; 610 m), the exhibition presents a range of scales, structural systems, construction types, and climactic responses as well as innovations specific to each tower's location and function. The exhibition will be on view from July 16 to September 27, 2004, at MoMA QNS and was organized by Terence Riley, Philip Johnson Chief Curator of Architecture and Design, The Museum of Modern Art; and Guy Nordenson, Professor of Architecture and Structures, Princeton University and head of a structural engineering firm based in New York.

Central to the concept of the exhibition is the new relationship between architect and engineer that has evolved with the advent of the use of high-speed computers to continuously model unprecedented structural solutions throughout the architectural design process. The featured building projects—many of them in various stages of the design and construction process and some that exist solely as proposals—represent the most innovative results of this new collaborative spirit in the design of tall buildings. (For a full list of buildings and projects, see pages 5-7).

The large-scale models, many created for this exhibition, range from 2 to 14 feet in height and, combined, create the visual effect of an urban skyline in miniature. The models are cast against a vibrant backdrop of images and renderings that paper the gallery walls. The exhibition presents projects designed for New York, Beijing, Paris, London, Hong Kong, Vienna, and Mexico City, among other cities. Projects conceived for Manhattan include three proposals for the redeveloped World Trade Center site; two designs for the New York Times Headquarters, including the Renzo Piano design which will begin construction this summer; a design for the Landmark Lofts by Jean Nouvel; and Steven Holl's designs for the Fifth Avenue and 42nd Street Tower.

Since the 1933 exhibition *Early Modern Architecture, Chicago, 1870–1910,* organized by Henry-Russell Hitchcock and Philip Johnson, MoMA has celebrated the engineering marvels of skyscrapers and their role in the evolution of the modern sensibility in a series of exhibitions and publications. The 1983 exhibition *Three New Skyscrapers*, organized by Arthur Drexler, was the first look at high-rise innovation after the construction of the World Trade Towers in New York City. The current exhibition examines yet another generation of tall buildings—designed principally in the last ten years—and how they reflect technical, cultural, and economic changes around the globe.

Mr. Riley says, "The projects in this exhibition demonstrate the vitality of the tall building as a basic component of contemporary urban development. Rather than isolated and insulated monolithic towers, these projects demonstrate new possibilities for integrating tall buildings within the urban fabric, exploring new technologies, and creating new and powerful ways of experiencing the life of the city."

Mr. Nordenson says, "Each of these tall buildings reveals a complex meaning that appears not only in its outward form but in the interior spatial experiences created by its cross section as well as its composite functions. The structure, the environmental systems, the form, and the functional composition join in a kind of ideogram or metaphor."

Complementing the exhibition will be a Web site that includes additional images and background information for each project. There will be computer kiosks in the Museum for visitors to access the special exhibition Web site as well as a reading area to view reference materials and catalogues. Additionally, the short historic film *Birth of a Building* (1958), about the construction of the Seagram Building, will be screened in a continuous loop.

Technology

The exhibition reaffirms that one of the principal drivers of innovation in skyscraper design continues to be technology. The expansion of the engineer's computer-based analytical capabilities has produced a notable and effective enhancement of his or her role in collaborating in the design of tall buildings. Whereas tall buildings previously were conceived as, or at least appeared to be, regular and simple diagrams, a number of recent structures, such as Rem Koolhaas/OMA and Cecil Balmond/Ove Arup's CCTV project for Beijing, can be seen as freely composed forms supported by truss-like exterior skins. The diagonal bracing of these rigid skins represents not only a strong structure but, in their complexity and contingent patterning, an unprecedented contribution on the part of the engineer to the design process.

Another aspect of technological innovation in recent tall buildings is the design of structures that consume less energy than conventional ones. The innovative use of double glazing to reduce solar gain, strategies for passive air flow within structures, improved computer modeling of air flow around buildings, and a host of other smaller but effective measures mean that recent tall buildings, such as Norman Foster and engineer John Brazier's Swiss Reinsurance Headquarters in London, to be completed this year, are demonstrably more efficient than the previous generation of high-rise construction.

Not surprisingly, the various towers proposed for the site of the World Trade Center focused on safety, and many of the innovations suggested—enhanced emergency escape routes, more areas of refuge and means of rescue, and redundant systems of fire suppression and communication—will be adopted elsewhere. Included in the exhibition are plans and models for the redeveloped World Trade Center by Richard Meier, Peter Eisenman, Charles Gwathmey, and Steven Holl with engineer Craig Schwitters; United Architects with engineers Aine M. Brazil, Thomas Scarangello, and Rory McGowan; and Norman Foster with engineers Ysrael Seinuk and Ahmad Rahimian.

Urbanism

The scale of tall buildings guarantees that they will continue to define the contemporary metropolis. If the familiar appeal of skyscrapers has waned in urban places where they are most familiar, such as New York and Chicago, the same cannot be said of cities around the world that are experiencing bursts of high-rise construction, such as Singapore and Frankfurt. The sudden appearance of tall buildings on the skyline, such as Santiago Calatrava's dramatic twisting high-rise in Malmö, Sweden, is morphing the identity of the urban landscape and expanding the dimensions of the city, often making it a presence far beyond its traditional boundaries. Perhaps the most notable development in the use of tall buildings to make urban space is the adoption of alternate models to the tower, the tapering shaft rising like a column to the sky. Linked buildings, Mobeus-like constructions, such as Eisenman Architects and Severud Associates' Max Reinhardt Haus designed for Berlin, and other previously unseen forms, not only act as defining markers but also create vast spaces and channel vision over great dimensions. In cities that are already dominated by high-rise skylines, more mature visions of the tall building as one of an ensemble are also evident, creating interrelationships that also mitigate the concept of the tall building as an isolated tower.

Programmatic Purpose

Previously, rather formal and forbidding lobbies designated the line between public activity at street level and private space above; now, many recent tall buildings also seek to extend the activities of the street into the structure. The Jin Mao tower in Shanghai, designed by Adrian Smith and D. Stanton Korista of Skidmore, Owings and Merrill, is actually a 38-story hotel that sits atop a 50-story commercial high-rise, expanding the traditional concept of public space far into upper reaches of the tower. Both the Kowloon Station Tower (designed by KPF and Over Arup and Partners with Les Robertson) and 122 Leadenhall Street (designed by the Richard Rogers Partnership and Ove Arup and Partners) occupy positions over major transit hubs, thus introducing into the towers the additional function of being part of the transportation system itself. In projects such as Frank Gehry's and David Childs/SOM's competition entry for the New York Times Headquarters, greater attention is being paid to the life of the city at ground level, whether it is pedestrian circulation, public space, or commercial activity, than to establishing isolated towers in plazas. In all these respects it is evident that architects around the world are

resisting conventional wisdom in a post–September 11 world: reduce the public sphere, restrict access, and limit unmonitored activity. Despite the anxieties of a changed global environment, architects today recognize that the tall building can never be separated from the permeable fabric of the city and from the public activity from which it grows.

SPONSORSHIP
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PUBLIC PROGRAMS
The exhibition will be supported by a symposium with a keynote address and with conversations with architects and engineers on September 17 and 18. (Please see separate press release for more information.)

PUBLICATION
The exhibition is accompanied by a 192-page publication with 320 illustrations of all 25 skyscrapers in the exhibition, organized by height. The catalogue includes a preface by Mr. Riley, an essay by Mr. Nordenson, and texts on each of the projects by the two curators and by Tina di Carlo, Curatorial Assistant, and Bevin Cline, Assistant Curator, Department of Architecture and Design, The Museum of Modern Art. The catalogue is published by The Museum of Modern Art, New York, and is distributed in the United States and Canada by D.A.P. (Paperback: $29.95). Available online at www.momastore.org and at the MoMA Stores.

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Tall Buildings

July 16–September 27, 2004

(Projects are organized by height, in a progression from the shortest to the tallest)

1. Edifico Manantiales, Santiago, Chile
1997–99. 187 feet (57 meters)
Architects: Luis Izquierdo W., Antonia Lehmann S.B., Raimundo Lira V., José Domingo Peñafiel E.
Engineer: Luis Soler P.

2. Monte Laa PORR Towers, Monte Laa Development, Vienna, Austria
Design, 2000–02; projected completion, 2006. 361 feet (110 meters)
Architect: Hans Hollein, Atelier Hollein
Engineer: Joseph Janda, Projektierungsbüro für Industrie-, Hoch- und Tiefbau

3. Max Rienhardt Haus, Berlin, Germany
Project, 1992–93. 420 feet (128 meters)
Architect: Peter Eisenman, Eisenman Architects
Engineer: Edward Messina, Severud Associates

4. Elephant and Castle Eco Towers, London, England
Project, 2000. Tower 1: 459 feet (140 meters); Tower 2: 240 feet (73 meters)
Architect: Ken Yeang, T.R. Hamzah & Yeang
Engineer: Christopher McCarthy, Battle McCarthy

5. Electricité de France (EDF) Headquarters, La Défense, Paris, France
1995–2002. 486 feet (148 meters)
Architect: Henry N. Cobb, Pei Cobb Freed & Partners
Engineer: Jean Heuber, SETEC

6. Landmark Lofts, New York, New York
Project, 2001–04. 490 feet (149 meters)
Architect: Jean Nouvel, Ateliers Jean Nouvel

7. Arcos Bosques Corporativo,Tower 1, Mexico City, Mexico
1993–96. 530 feet (162 meters)
Architect: Teodoro González de Léon, J. Francisco Serrano, Carlos Tejeda
Engineer: Alejandro Fierro Manly, Diseño y Supervision

8. Fifth Avenue and Forty-second Street Tower, New York, New York
Project, 2002. 585 feet (178 meters)
Architects: Steven Holl, Solange Fabião, Steven Holl Architects
Engineers: Robert Silman, Nat Oppenheimer, Robert Silman Associates

9. 30 St. Mary Axe, Swiss Reinsurance Headquarters, London, England
Design, 1997–2000; projected completion, 2004. 590 feet (180 meters)
Architect: Norman Foster, Foster and Partners
Engineer: John Brazier, Ove Arup & Partners

10. New York Times Headquarters, New York, New York
Project, 2000. 606 feet (185 meters)
Architects: Frank O. Gehry, Gehry Partners; David Childs, Skidmore, Owings & Merrill
Engineers: William F. Baker, Hal Iyengar, Skidmore, Owings & Merrill

11. Turning Torso, Apartment and Office Tower, Malmö, Sweden
Design, 1999–2001; projected completion, 2005. 623 feet (190 meters)
Architect and Engineer: Santiago Calatrava

12. Industrialized Housing System, Korea
Project, 1991–92. 660 feet (201 meters)
Architect: Richard Rogers Partnership
Engineer: John Miles, Ove Arup & Partners

13. 122 Leadenhall Street, London, England
Project, 2002–03. 728 feet (222 meters)
Architect: Richard Rogers Partnership
Engineer: David Glover, Ove Arup & Partners

14. Central Chinese Television (CCTV) Tower, Beijing, China
Design, 2002–04; projected completion, 2008. 768 feet (234 meters)
Architects: Rem Koolhaas, Ole Scheeren, Office for Metropolitan Architecture
Engineer: Cecil Balmond, Craig Gibbons, Michael Kwok, Rory McGowan, Ove Arup & Partners

15. Highcliff and The Summit, Hong Kong, China
1995–02. Highcliff: 827 feet (252 meters). The Summit: 722 feet (220 meters)
Architect: Dennis Lau Wing-kwong, Dennis Lau & Ng Chun Man Architects and Engineers
Engineer: Ad Gouwerok, Magnusson Klemencic Associates

16. JR Ueno Railway Station Redevelopment, Ueno, Tokyo, Japan
Project, 1988–95. 987 feet (301 meters)
Architect: Arata Isozaki, Arata Isozaki & Associates
Engineer: Toshihiko Kimura, Kimura Structural Engineering

17. London Bridge Tower, London, England
Design, 2000–03; projected completion, 2009. 1,016 feet (310 meters)
Architect: Renzo Piano, Renzo Piano Building Workshop
Engineer: Paul Nuttall, Ove Arup & Partners

18. World Trade Center, New York, New York
Project, 2002. 1,111 feet (337 meters)
Architects: Richard Meier, Richard Meier & Partners Architects; Peter Eisenman, Eisenman Architects; Charles Gwathmey, Gwathmey Siegel & Associates; Steven Holl, Steven Holl Architects
Engineer: Craig Schwitters, Buro Happold

19. New York Times Headquarters, New York, New York
Design, 2000–03; projected completion, 2006. 1,140 feet (348 meters)
Architect: Renzo Piano Building Workshop, Design Architect with Fox and Fowle Architects, P.C., Executive Architect
Engineer: Thomas Scarangello, Thornton-Tomasetti Engineers

20. Jin Mao Tower, Pudong New Area, Shanghai, China
1993–99. 1,380 feet (421 meters)
Architect: Adrian D. Smith, Skidmore, Owings & Merrill
Engineer: D. Stanton Korista, Skidmore, Owings & Merrill

21. Togok (XL Towers), Seoul, Korea
Project, 1996–2002. 1,444 feet (440 meters)
Architect: Rem Koolhaas, Office for Metropolitan Architecture
Engineers: Cecil Balmond, Philip Dilley, Ove Arup & Partners

22. Kowloon Station Tower, Kowloon, Hong Kong, China
Design, 2000–03; projected completion, 2007. 1,583 feet (475 meters)
Architect: William Pedersen, Kohn Pedersen Fox Associates
Engineers: George Chan, Ove Arup & Partners; Leslie Robertson, LERA

23. World Trade Center, New York, New York
Project, 2002. 1,620 feet (494 meters)
Architects: United Architects: Ben van Berkel, Caroline Bos, UN Studio; Peter Frankfurt, Mikon van Gastel, Imaginary Forces; Kevin Kennon, Kevin Kennon Architect; Greg Lynn, Greg Lynn FORM; Farshid Moussavi, Alejandro Zaero-Polo, Foreign Office Architects; Jesse Reiser, Nanako Umemoto, Reiser + Umemoto
Engineers: Aine M. Brazil, Thomas Scarangello, Thornton-Tomasetti; Rory McGowan, Ove Arup & Partners

24. World Trade Center, New York, New York
Project, 2002. 1,764 feet (538 meters)
Architect: Norman Foster, Foster and Partners
Engineers: Ysrael Seinuk, Ahmad Rahimian, Cantor Seinuk Group

25. 7 South Dearborn, Chicago, Illinois
Project, 1998. 2,000 feet (610 meters)
Architect: Adrian D. Smith, Skidmore, Owings & Merrill
Engineer: William F. Baker, Skidmore, Owings & Merrill