



# SINOSTEEL INTERNATIONAL PLAZA

TIANJIN, CHINA - estimated completion date 2020

Designed by MAD Architects

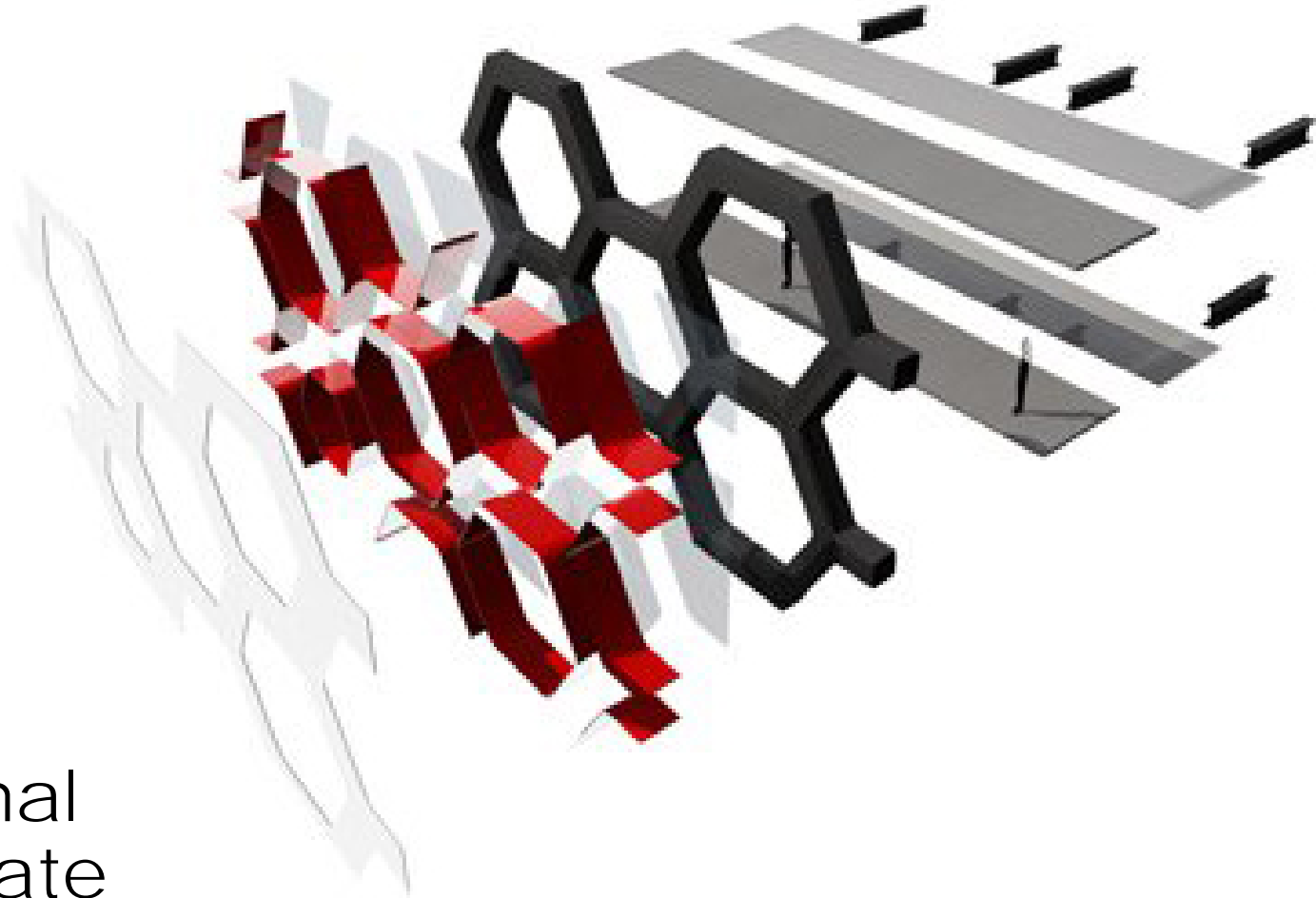
INSPIRATION PRESENTATION - OMAR GARCIA

## CHALLENGE / SOLUTION

- The challenge of this building was to design a light weight structure that uses the least amount of material, and also to passively regulate heat while also letting in lots of light.
- The solution for the design of the building was to look at the optimal hexagonal honeycomb structure and apply it into the design of the windows system.

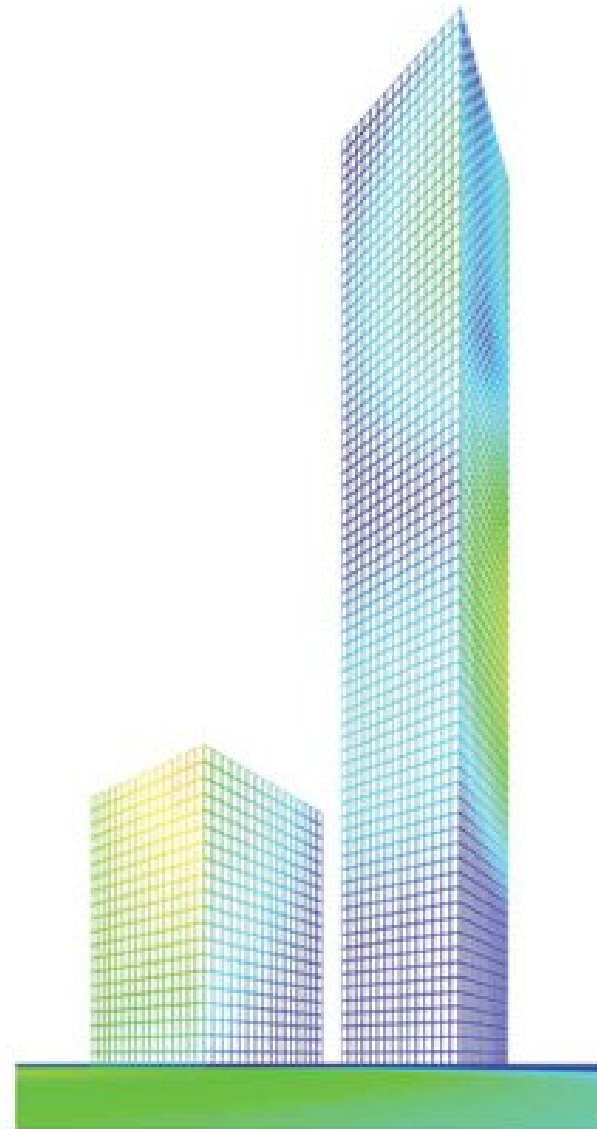
# BIOMIMETIC INVESTIGATION

- Analyzing of functional principals and construction logics of natural lightweight structures.
  - The honeycomb
- Analyzing how the hexagonal structure can serve to regulate the structure's temperature and daylight by varying the size of each window.

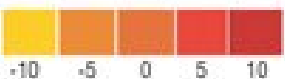
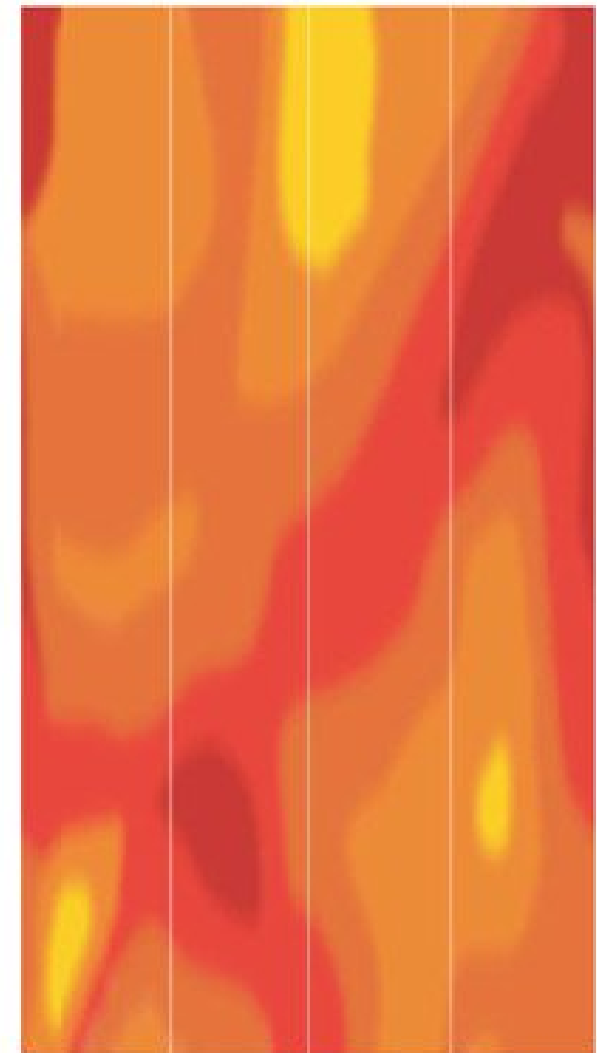


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Sun Studies  
日照分析



Wind Studies  
气流分析

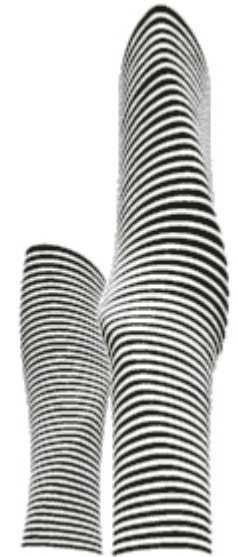
# BIOMIMETIC INVESTIGATION

By looking at how honeybees build their hexagonal wax nest structure, the architects are able to apply the same principles into designing the skyscraper. These two images to the right show the strategy implemented from the façade of building.



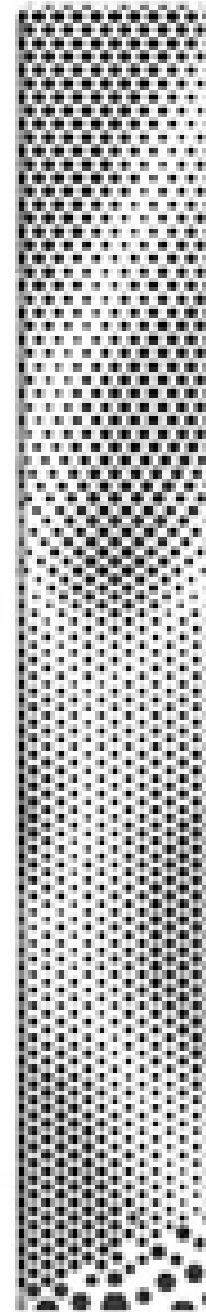
# MAD Architects

- Founded by Chinese architect Ma Yansong in 2004, MAD Architects is a global architecture firm committed to developing futuristic, organic, technologically advanced designs that embody a contemporary interpretation of the Eastern affinity for nature.
- The firm is globally recognized as a creative pioneer.



# Inspiration Application

MAD Architects honeycomb approach to their design has inspired me to also look at and explore the design possibilities of honeycombs and how they can be applied to the structure efficiency of a building and also the way it can be effectively used for daylighting and for passive heating/cooling strategies.



## Other Inspiration

- To the right is a different project I looked at that was also using the honeycomb structure design in an innovative/efficient/elegant way.
- The design is called the Manta Ray and it is a project proposal for a new ferry terminal in Seoul, South Korea.
- It was designed by Vincent Callebaut Architectures
- He is an Ecological Architect from Belgium.





# CREDITS

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- “Sinosteel International Plaza by MAD.” Dezeen, 13 Aug. 2014, [www.dezeen.com/2008/07/30/sinosteel-international-plaza-by-mad/](http://www.dezeen.com/2008/07/30/sinosteel-international-plaza-by-mad/).
- “The Biomimicry Manual: What Can the Honeybee Teach a Designer?” Inhabitat Green Design Innovation Architecture Green Building, 15 Mar. 2017, [inhabitat.com/the-biomimicry-manual-what-can-the-honeybee-teach-designers-about-insulation-elasticity-and-flight/](http://inhabitat.com/the-biomimicry-manual-what-can-the-honeybee-teach-designers-about-insulation-elasticity-and-flight/).
- “Honeycomb Facade for Softer Urban Landscape / Sinosteel, Tianjin by MAD Architects - EVolo | Architecture Magazine.” EVolo Architecture Magazine RSS, [www.evolo.us/architecture/honeycomb-facade-for-softer-urban-landscape-sinosteel-tianjin-by-mad-architects/](http://www.evolo.us/architecture/honeycomb-facade-for-softer-urban-landscape-sinosteel-tianjin-by-mad-architects/).
- Williams, Adam. “Sustainable Manta Ray-Shaped Ferry Terminal Floated for Seoul.” *New Atlas - New Technology & Science News*, New Atlas, 15 June 2017, [newatlas.com/vincent-callebaut-manta-ray/50015/](http://newatlas.com/vincent-callebaut-manta-ray/50015/).