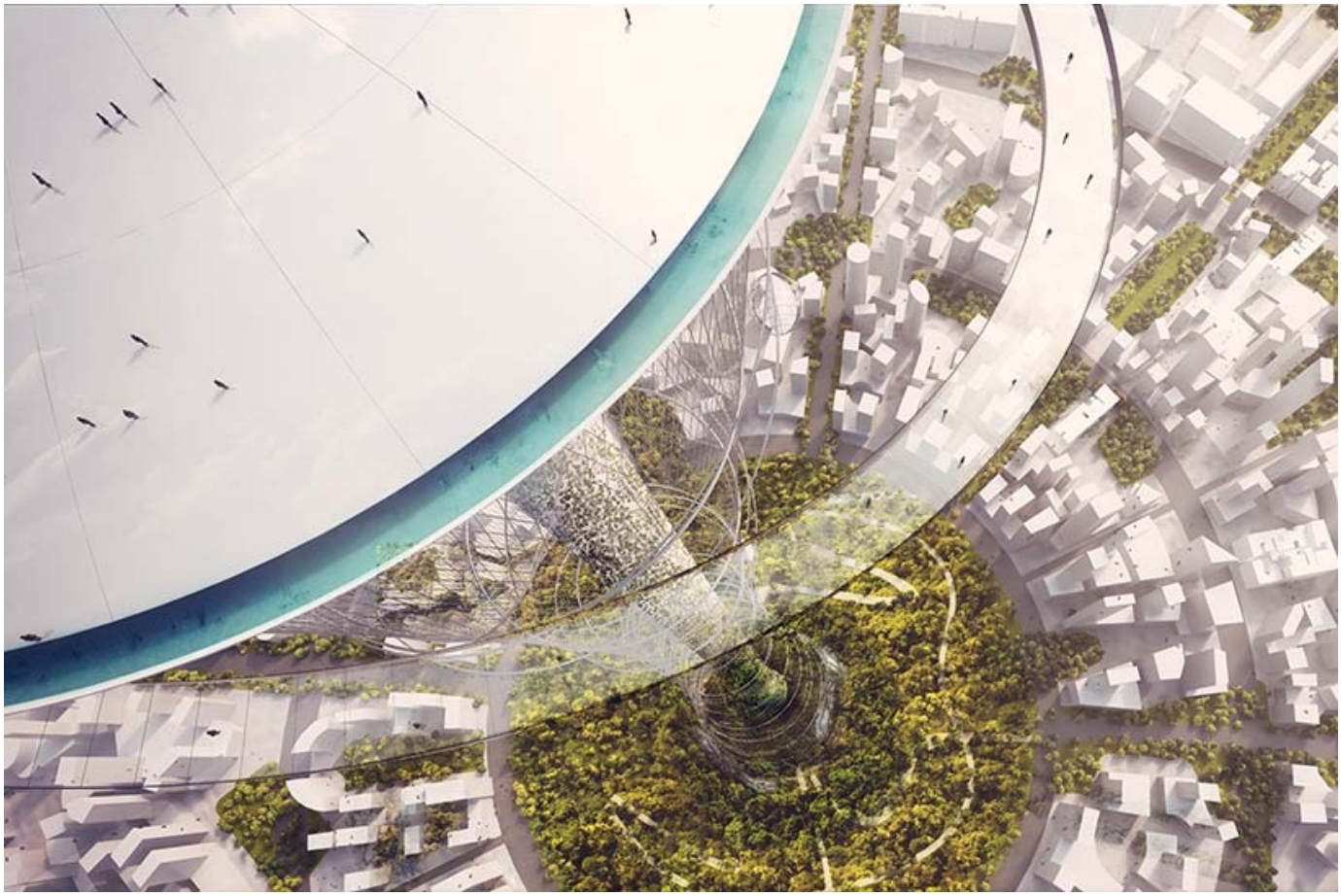
carlo ratti plans 'the mile' vertical park and observation deck



feb 24, 2016

carlo ratti unveils plans for mile-high vertical park and observation deck

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carlo ratti associati **(CRA) has revealed a conceptual design for the world's highest vertical park and observation deck.** developed in collaboration with german engineering firm schlaich bergermann und partner, and british digital design studio atmos, the structure will climb to a proposed height of one-mile (1,609 meters), forming the tallest man-made construction on earth. topped with a publicly-accessible observation deck, 'the mile' will offer a natural ecosystem, covered with plants and greenery and inhabited by hundreds of animal species. *'imagine you take new york's central park, turn it vertical, roll it and twirl it,'* says **carlo ratti**, founder of CRA, and director of the MIT senseable city lab.

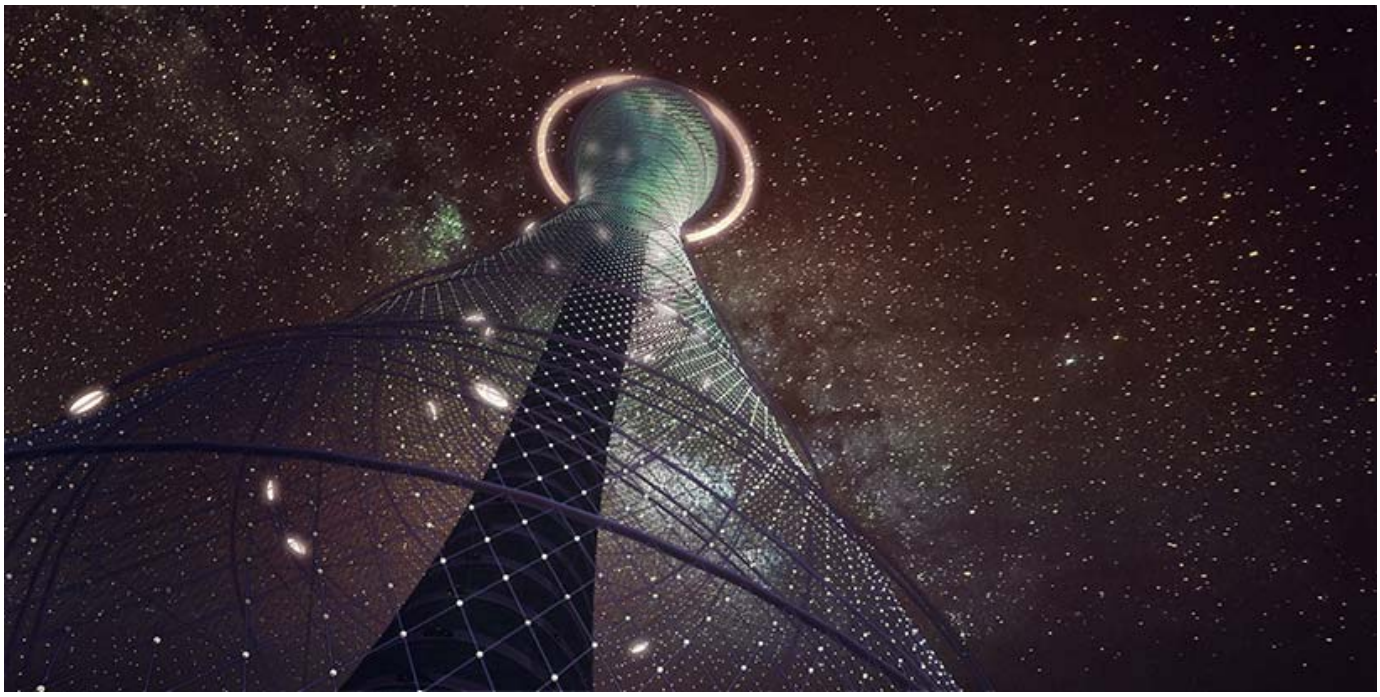
the view from the mile-high observation deck

in order to achieve the unprecedented height — twice that of the burj khalifa — engineers developed an exceptionally lightweight structure based on a 20 meter-wide shaft, kept in compression, and secured through a net of pre-stressed cables. around the shaft, a series of orbiting capsules allow visitors to gradually ascend to its summit, enjoying views at a variety of speeds and vantage points. the sculptural capsules are able to host meetings, dinners, concerts, or even pools — allowing people to inhabit the sky in unprecedented ways. *'the capsules will be equipped with open-air virtual reality screens, permitting an interaction with the 360-degree view over the landscape,'* explains the design team. *'aloft in the sky, visitors can see the city as is – or could be, unencumbered by headsets that typically accompany VR.'*

capsules will be equipped with open-air virtual reality screens

'following the example of the 1972 munich olympic complex, engineered by joerg schlaich and rudolf bergermann, which pushed the boundaries of the possible and became a milestone in architectural history, the structural concept for the mile is technically feasible

***because of its consequent and uncompromised light-weight approach**,'* explains **boris reyher**, associate and team leader at schlaich bergermann und partner**.** *'the architectural form and the spatial equilibrium of forces become one and the same thing. on the one hand, this leads to an optimized usage of high-grade materials. on the other hand, the structural form and load paths become intuitively comprehensible by every spectator.'*



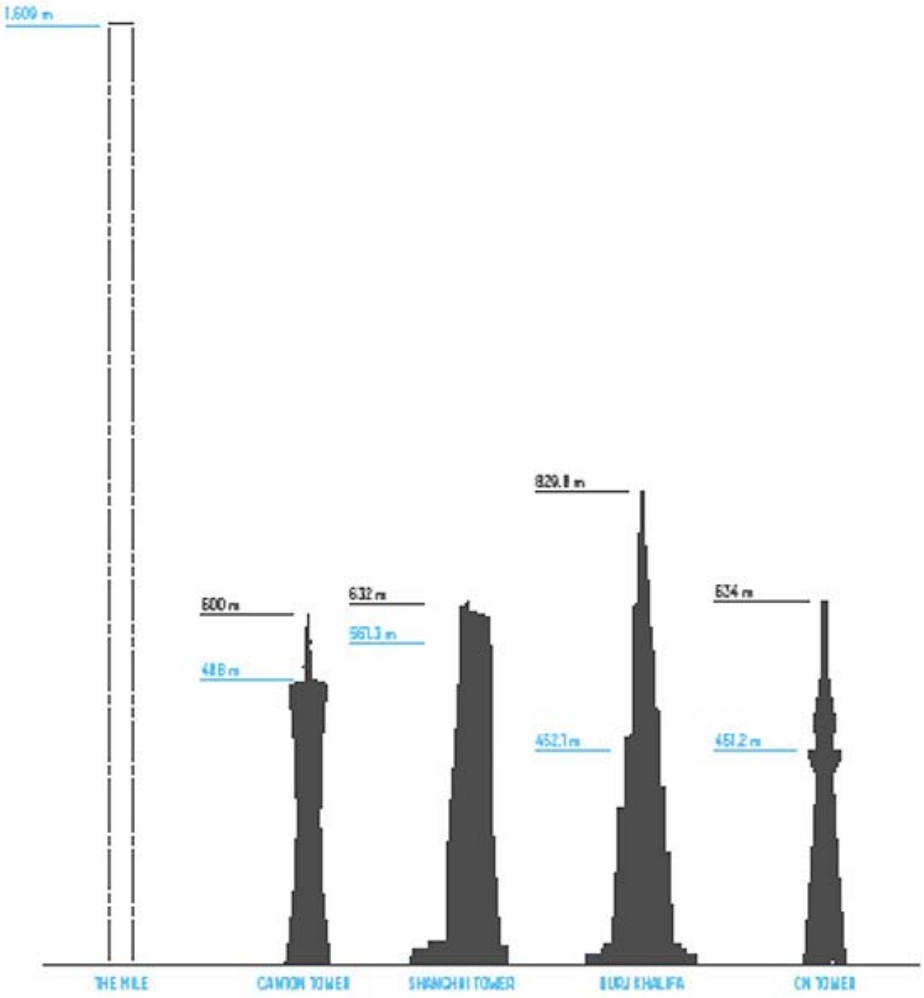
the tower will offer a natural ecosystem, eventually covered with plants and greenery

the project's financial model is based on the examples of paris' eiffel tower, or the london eye, both of which generate tens of millions of dollars in profits each year. the general concept of a one-mile vertical park, featuring a constellation of sky decks, has been developed for cities that draw large numbers of tourists**.** designed for an undisclosed client, 'the mile' is presented at cannes' **MIPIM** on march 16th, 2016**.**

The Mile proposes a revolutionary new form of monument - a new form of collective experience with an observation deck, high above the city - a piazza in the sky for citizens and tourists to visit, congregate, relax and play. It will be the highest structure of its kind, incorporating the latest feats of engineering, and providing access to a new "mile-high club".

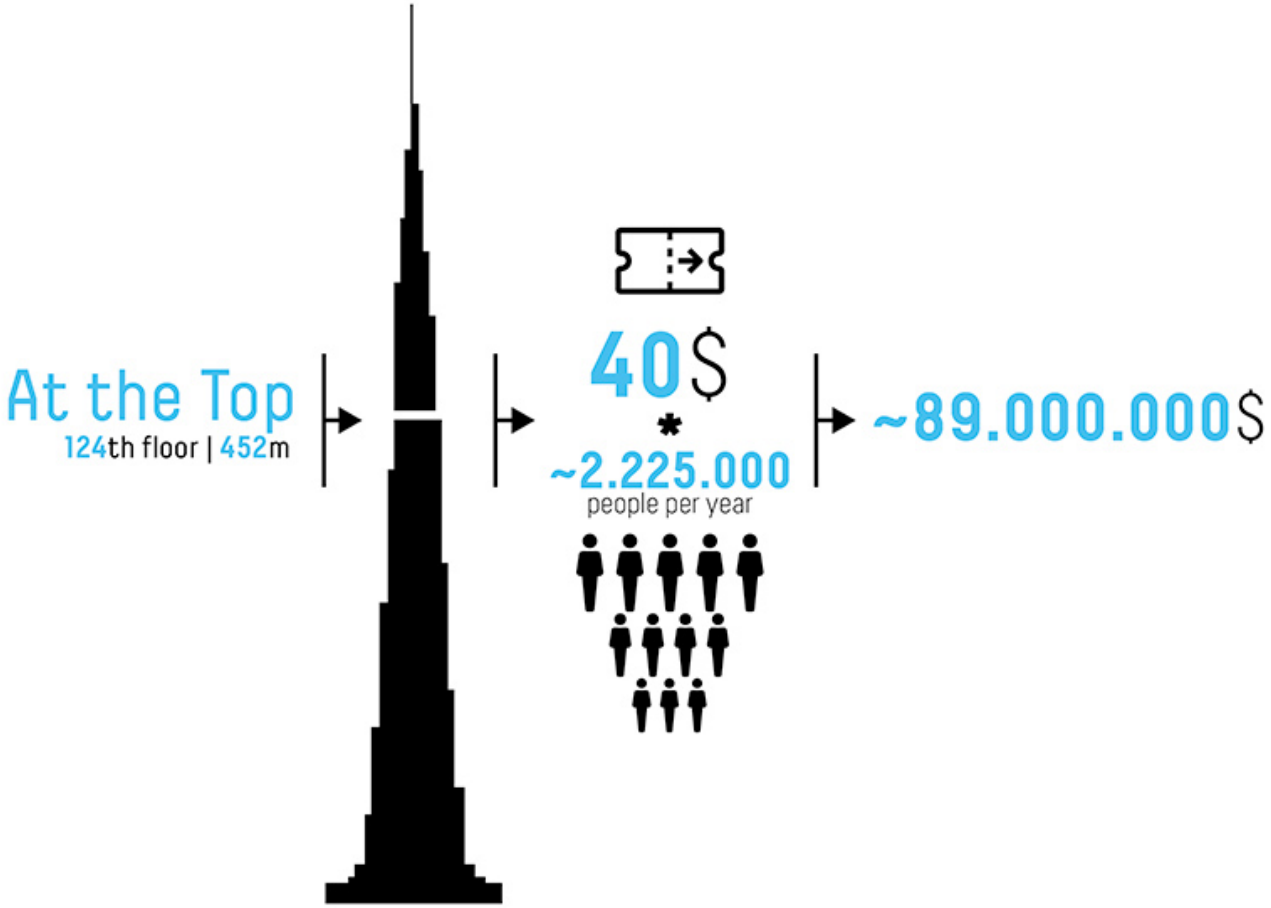
Drawing on the experience of Burj Khalifa's "At The Top", where the tickets' sale brings back around 50 milion dollars per year, the main objectives and aim of this project is to provide the client with a sustainable, robust, innovative and unique pre-concept design strategy, to create a landmark structure for cities of the future to inspire people worldwide and attract international attention.

the project has been conceived as a plaza in the sky



	name	built	location	deck	total	
1	**The Mile**			**1.609**	**1.609**	
2	Canton Tower	2011	China - Guangzhou	488	600	The highest indoor deck is at 448.8 m
3	Shanghai Tower	2015	China - Shanghai	561	632	Observatory on levels 121-123
4	Burj Khalifa	2010	UAE - Dubai	452	829	124th floor, outdoor
5	Tokyo Skytree	2012	Japan - Tokyo	451	634	Three additional observation decks at 340 m, 345 m, and 350 m
5	CN Tower	1976	Canada - Toronto	446	553	Two additional observation decks at 342 m (outdoor) & 346 m (indoor).

‘the mile’ is almost twice the height of the world’s tallest building



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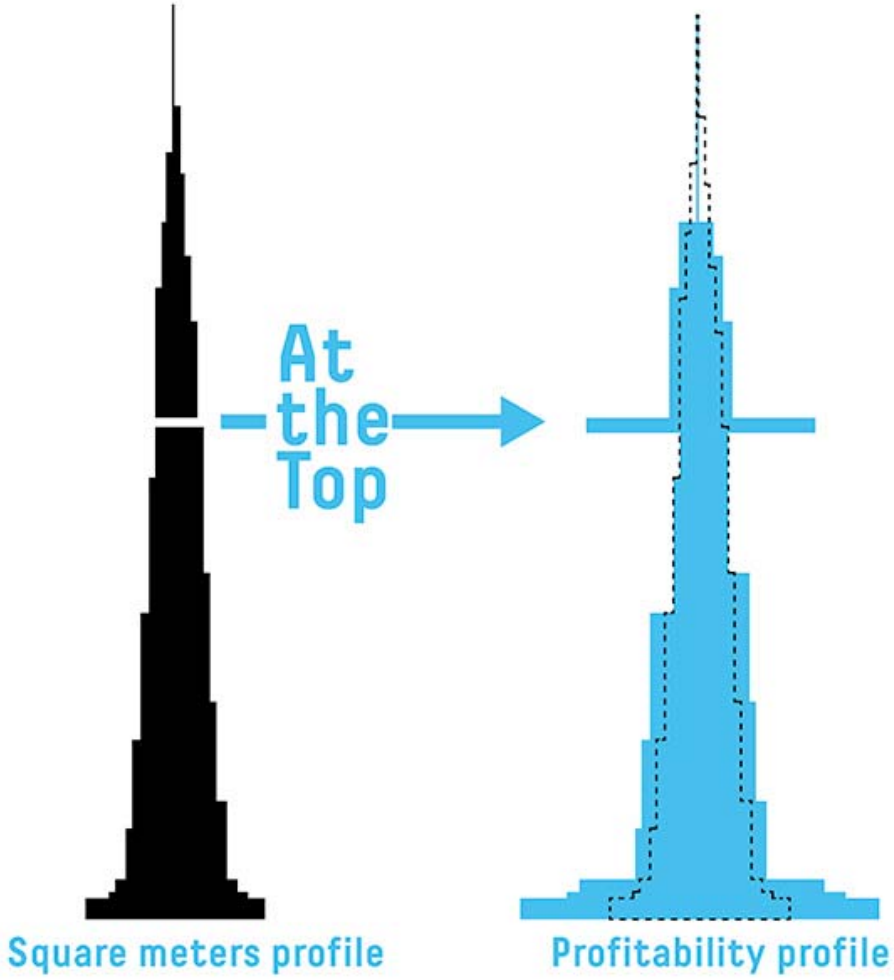
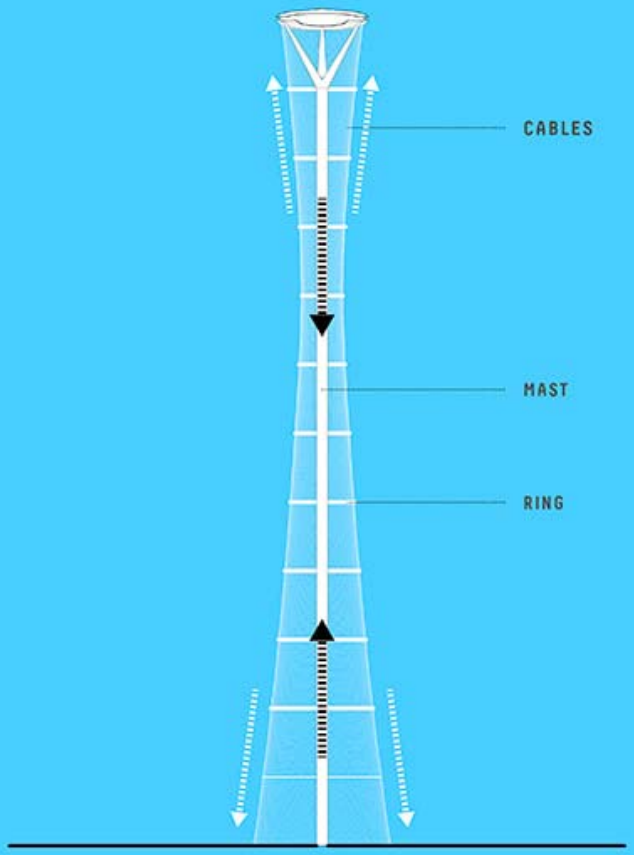

At
the
Top
Square meters profile
Profitability profile

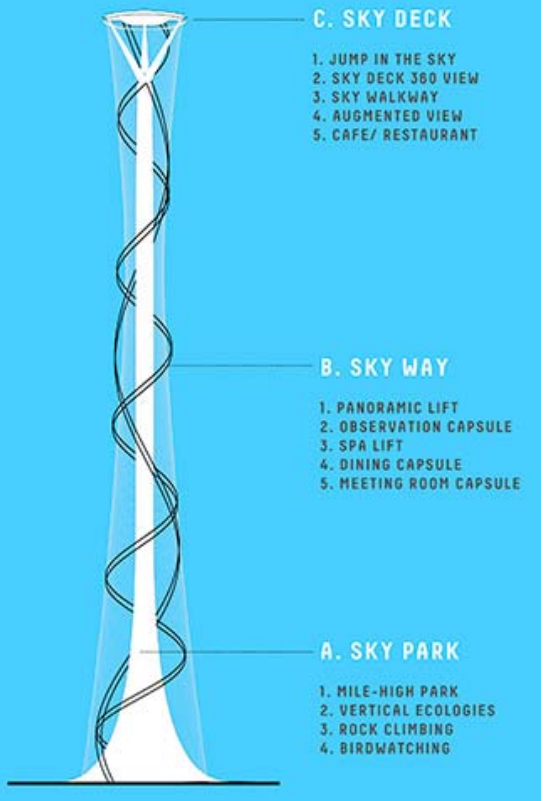
STRUCTURE
CONCEPT

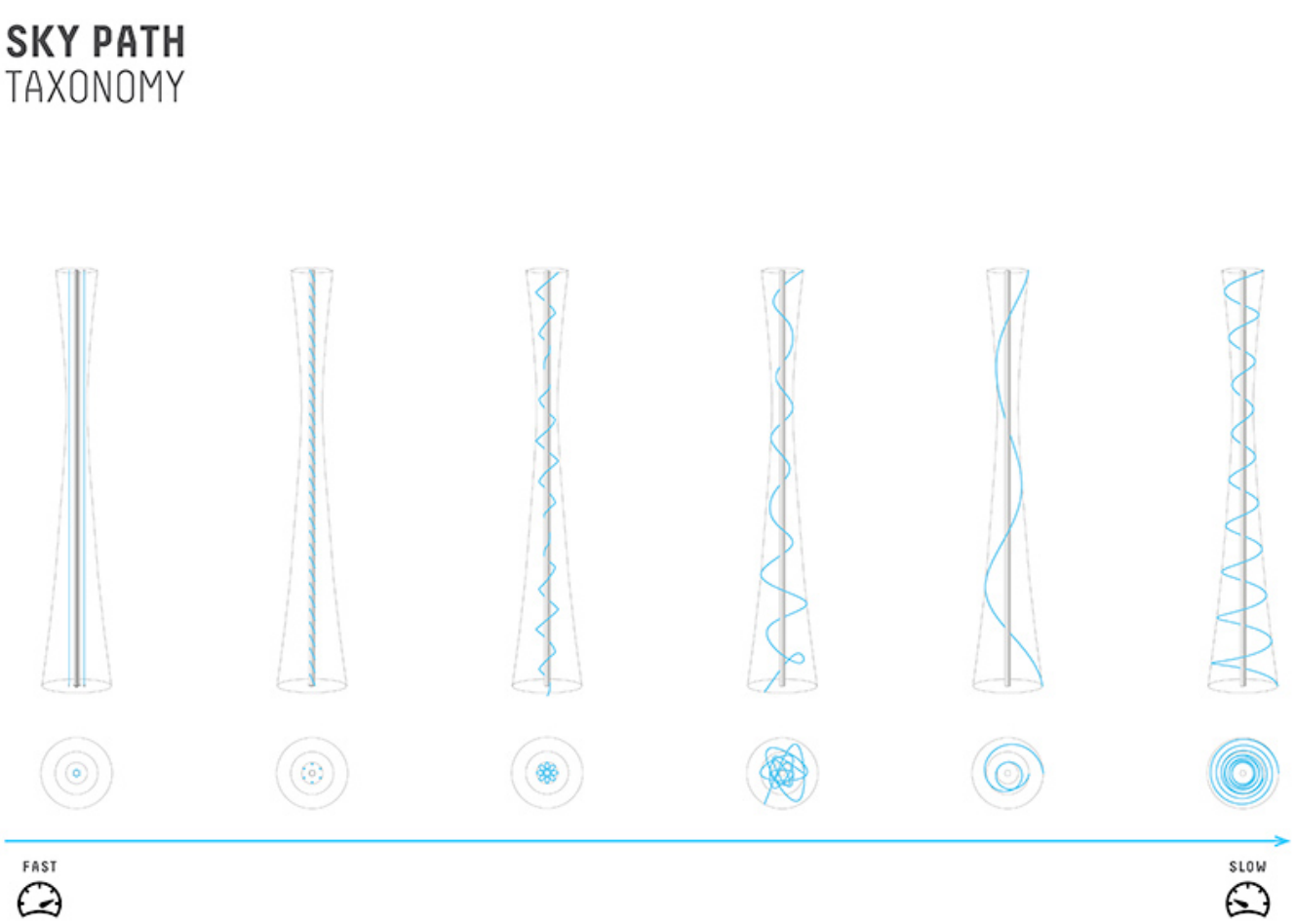
The proposed solution employs a structural shaft in compression, supporting the Sky Deck above and secured through pre-stressed cables held in tension.

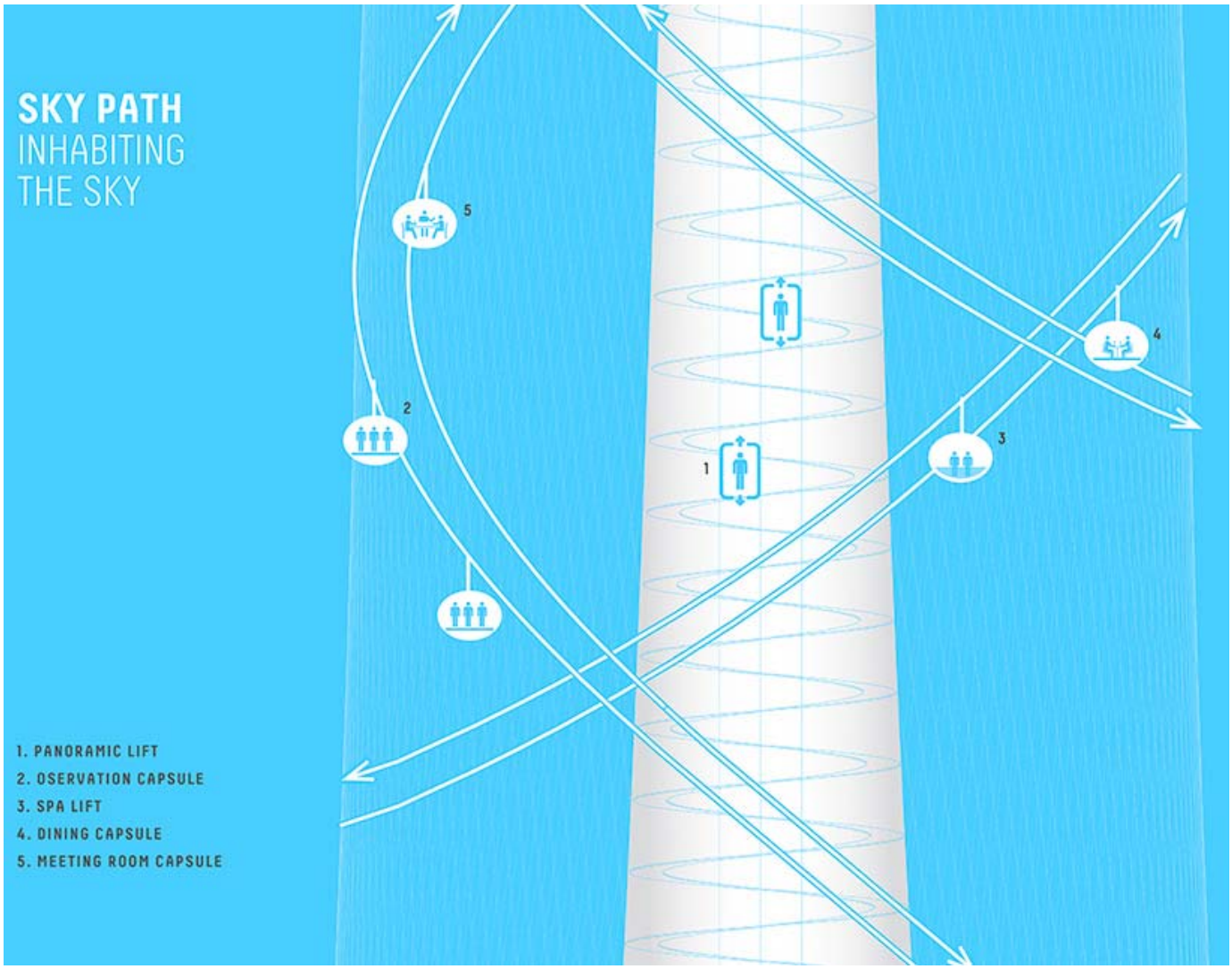


SKY PATH
CONCEPT

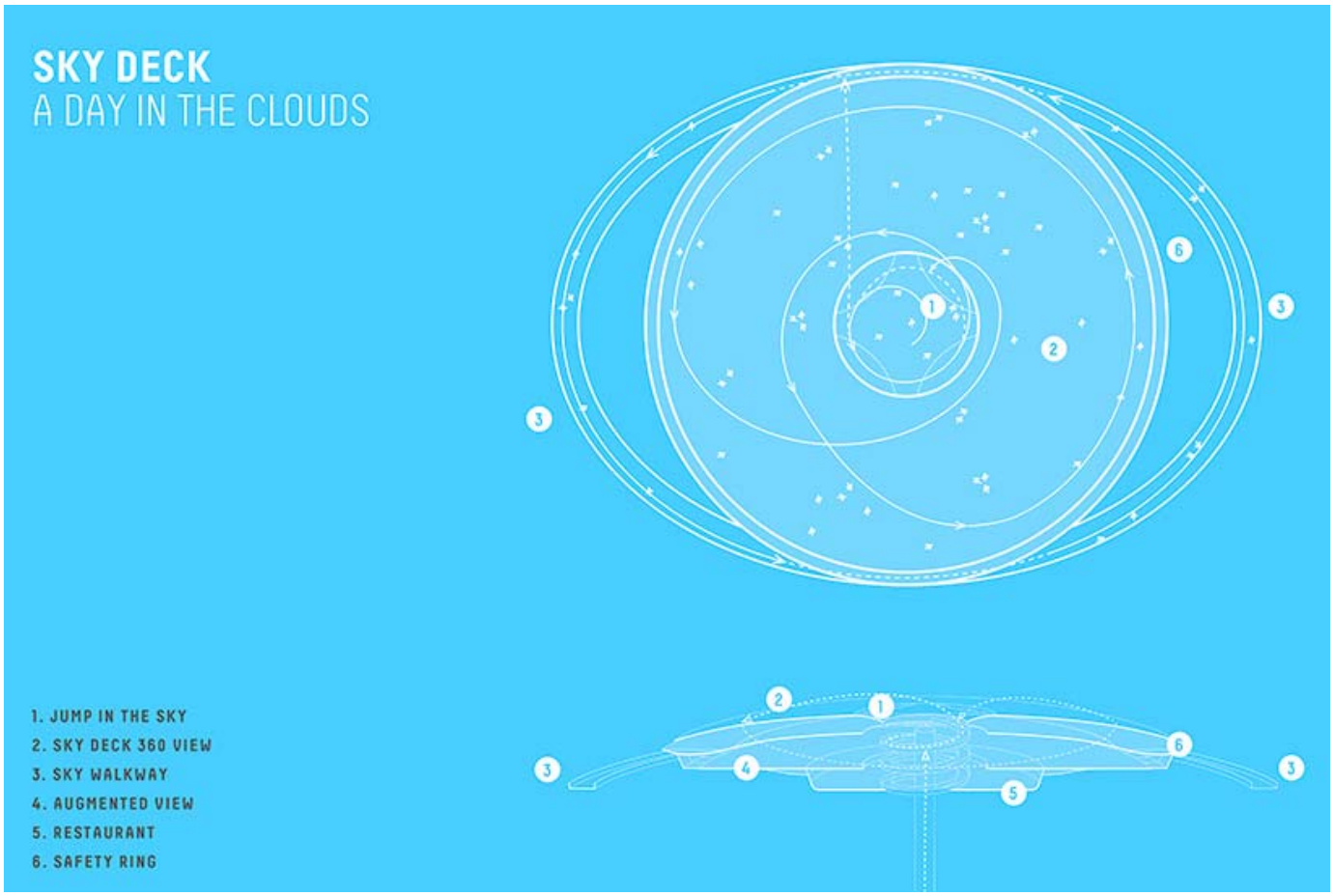
The ultimate draw of the view from the top is celebrated by creating and sustaining a feeling of suspense as visitors ascend the tower towards the Sky Deck. Once at the top, views of the sky are carefully curated, building up to the "on the edge" moment.



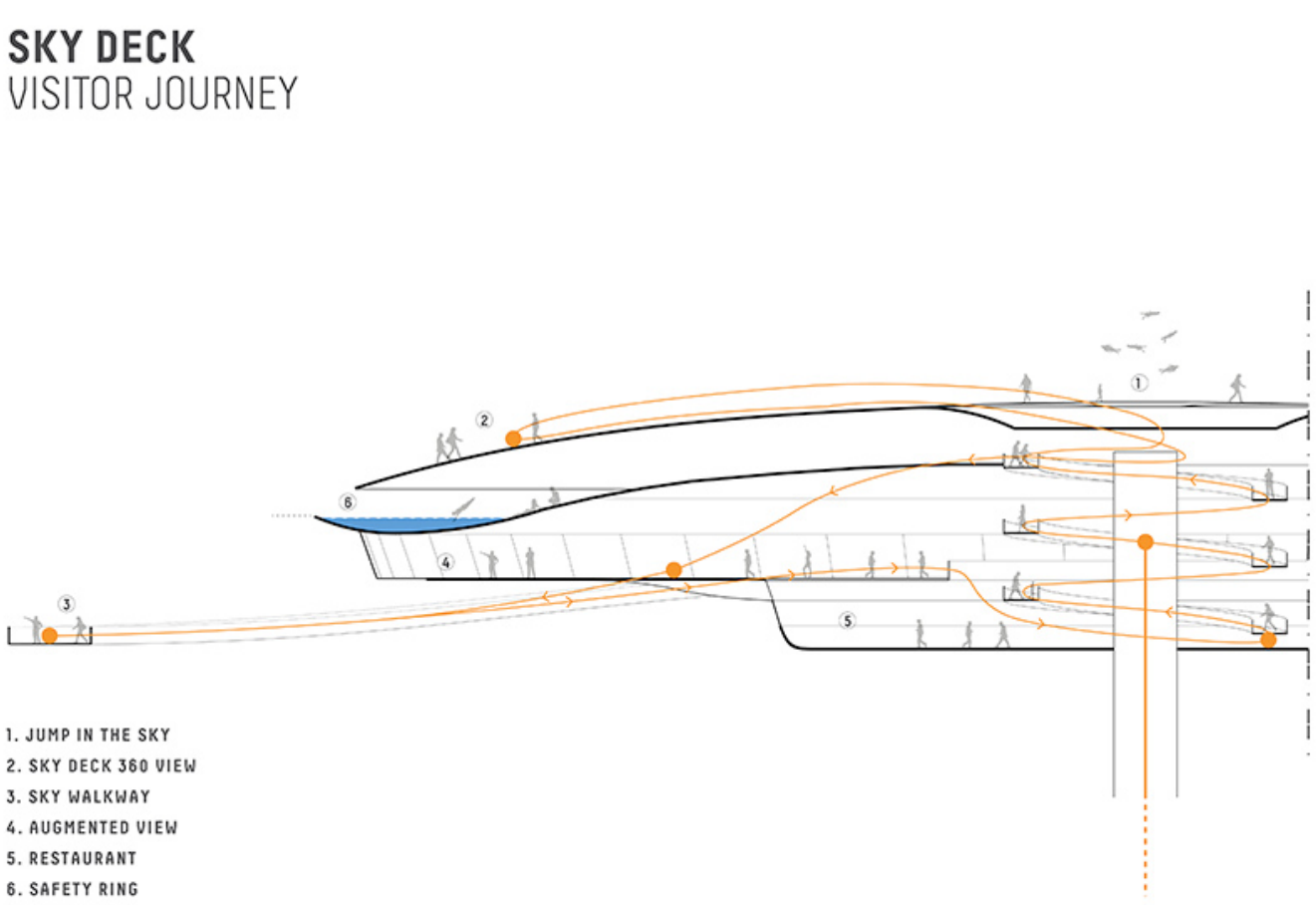

SKY PATH
TAXONOMY
FAST
SLOW


SKY PATH
INHABITING
THE SKY
1
2
3
4
5
1. PANORAMIC LIFT
2. OSERVATION CAPSULE
3. SPA LIFT
4. DINING CAPSULE
5. MEETING ROOM CAPSULE

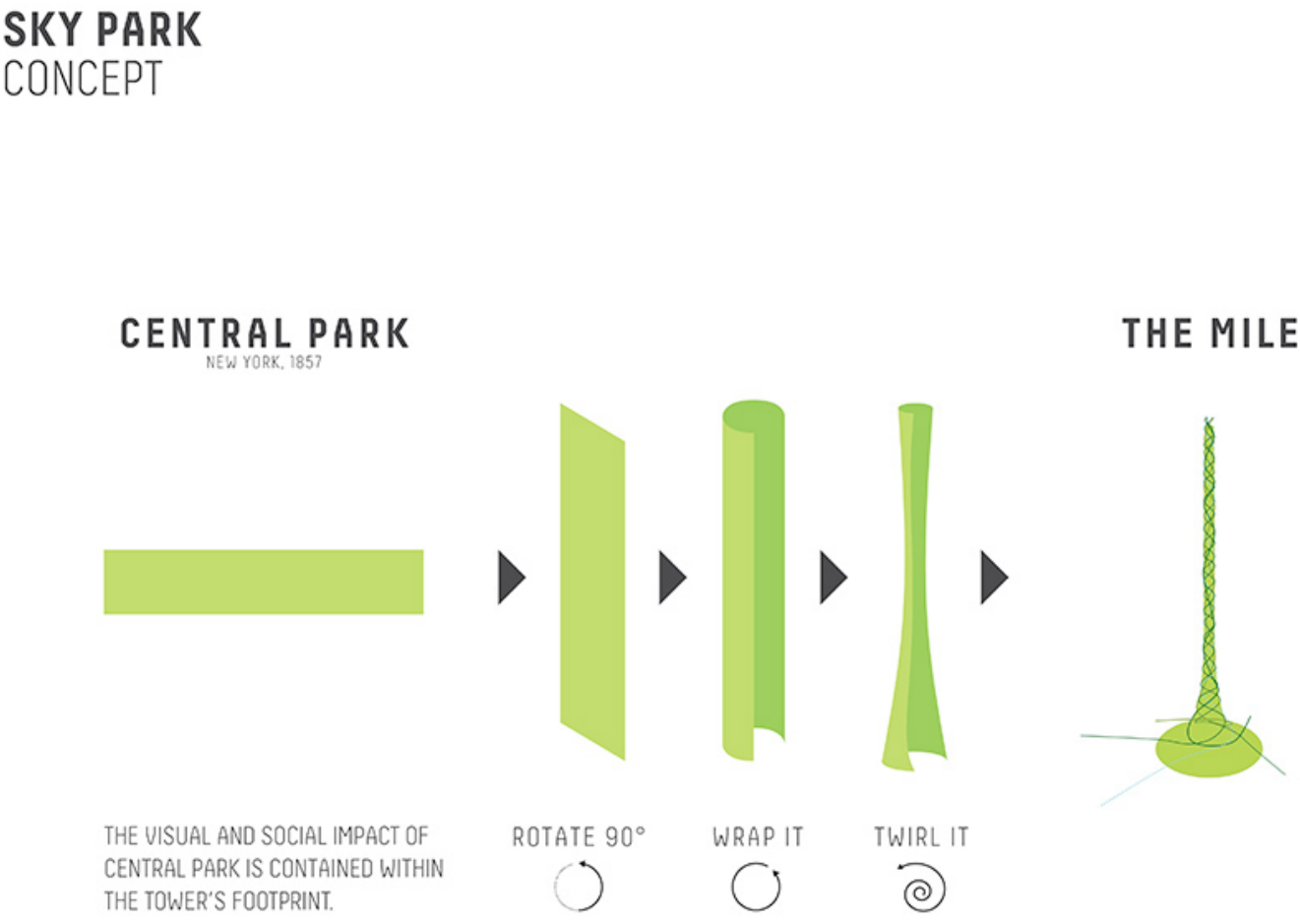
a series of orbiting capsules allow visitors to gradually ascend to the summit



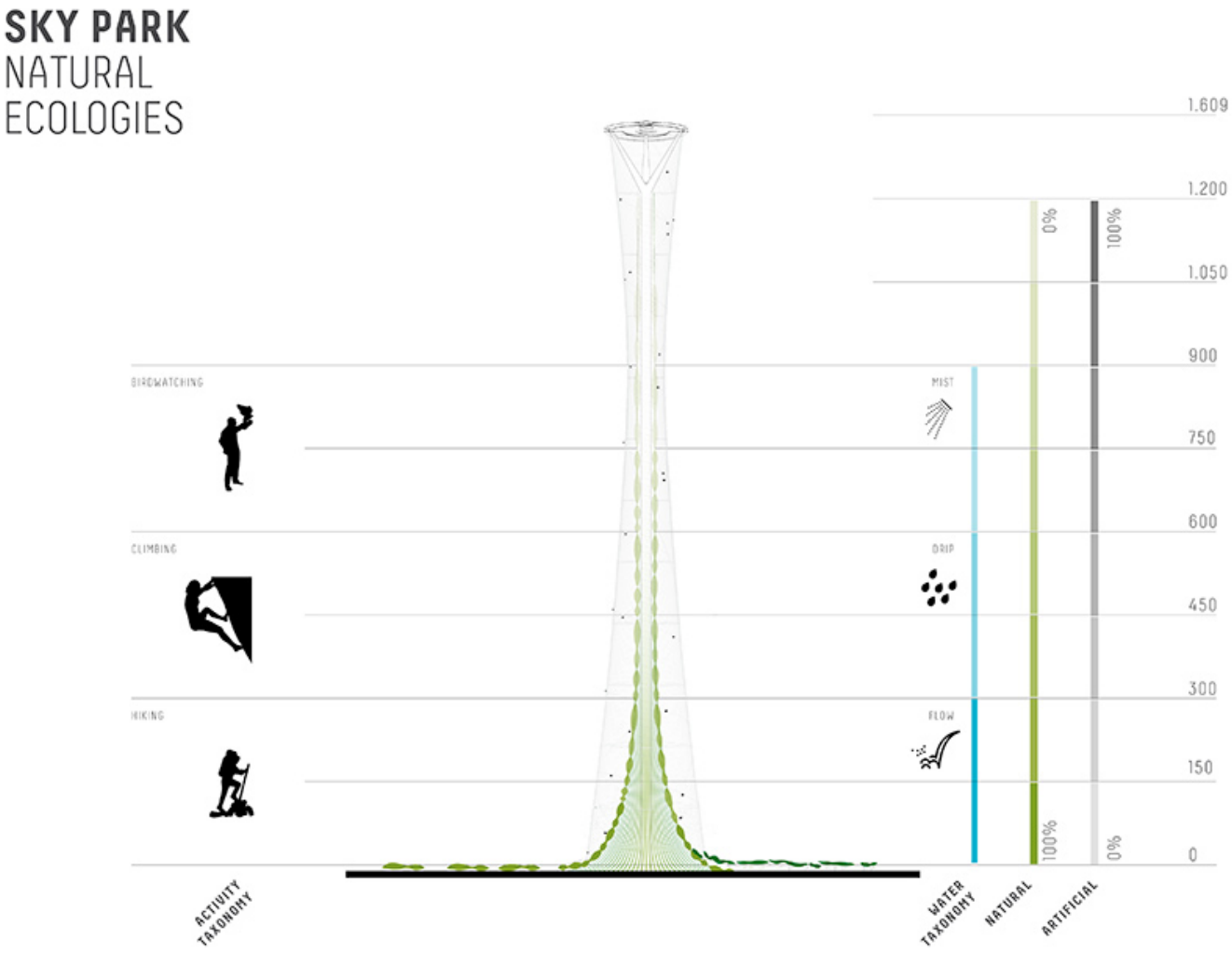
a constellation of sky decks



the capsules are able to host meetings, dinners, concerts, or even pools



‘imagine you take new york’s central park, turn it vertical, roll it and twirl it’ — carlo ratti



the scheme will be inhabited by hundreds of animal species

project credits:
concept design: carlo ratti associati (carlo ratti, giovanni de niederhäusern, emma greer, saverio panata, alberto bottero, gary di silvio, andrea galli, pietro leoni, monica love), schlaich bergermann und partner (joerg schlaich, founding partner; mike schlaich, managing partner; boris reyher, associate and berlin office manager), atmos (alex haw)

philip stevens **I** designboom
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