

To Future It Now

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verb

Carbon Emergency - Curatorial Statement

'To Future It Now' is a proposal for a climate biennale that would speak about the diminishing natural resources on Earth, how increasing use of fossil fuels is directly proportional to the rise in sea levels, the need to achieve carbon neutrality, and the urgency to achieve it now. The biennale would address questions like, how long and far can we propose pragmatic solutions for climate change, how could water as a rising element be used as a fuel to replace the need for burning non-renewables, how far can living species adapt to change, and what is the end game of civilization.

"Were I a poet, I'd write, The end is nigh, and we are why.", Richard Buday writes in his article 'What we don't get about climate change'.



Sea levels could rise by 1M if CO2 emissions are not cut by 2100

Exhibition Goal

By designing an end to end sustainable exhibition, we proposes to talk about climate change in respect of time-space quality, the possibility of what the future could hold. This Climate Emergency Biennale at Governors Island in New York aims at inviting thinkers and practitioners who work largely in the field of climate, science, art and architecture, to push forward sustainable methods of living and construction to minimize carbon footprint in building designs.

The brief of the exhibition is to visualise how life can be a few decades ahead when we would have achieved carbon neutrality, and eliminated the constant need for search of climate solutions. With the help of participants and guest speakers, the exhibition aims at starting a dialogue within these communities of artists and scientists to start visualizing a healthier future.

The exhibition at the same time aims at educating common people about the climate reality through immersive, multi-sensory experiences at these pavilions. The goal is to make everyone aware of where we stand on the environmental front without overwhelming them with the reality.

The biennale wants the visitors to leave with some sense of hope about an optimistic future but also with awareness of the urgency and burden of individual responsibility.



Curatorial Role - Literacy Building

The exhibition further aims at building climate literacy by presenting information that is deemed important for individuals and communities to know and understand about Earth's climate, and approaches to adaptation or mitigation, and the politics attached in doing so. Combined with civic education, climate and environmental literacy will create jobs, build a green consumer market and allow citizens to engage with their governments in a meaningful way to solve climate change.

Carbon Democracy - Timothy Mitchell

With the rise of coal power, the producers who oversaw its production acquired the ability to shut down energy systems, a threat they used to build the first mass democracies. Oil offered the West an alternative, and with it came a new form of politics. Oil created a denatured political life whose central object—the economy—appeared capable of infinite growth. What followed was a Western democracy dependent on an undemocratic Middle East. We now live with the consequences: an impoverished political practice, incapable of addressing the crises that threaten to end the age of carbon democracy—namely, the disappearance of cheap energy and the carbon-fueled collapse of the ecological order.

Carbon Technocracy - Victor Seow

Carbon Technocracy argues for the centrality of fossil fuel energy to the making of global industrial modernity and to the emergence of East Asian technocratic imaginaries in the first half of the twentieth century. It advances the premise that coal and later oil enabled not only the transformation of human society's material foundations, but also allowed for new kinds of publics and politics.

Anthropocene

The Anthropocene defines Earth's most recent geologic time period as being human-influenced, or anthropogenic, based on overwhelming global evidence that atmospheric, geologic, hydrologic, biospheric and other earth system processes are now altered by humans.

Decolonise The Concept Of Anthropocene

Does Mother Earth have rights? Can glaciers listen? Should invisible elves be consulted about development projects? The Anthropocene concept asks us to imagine a world in which humans act as a dominant geophysical force on the global scale—a force powerful enough to melt the polar ice caps, surpass planetary boundaries, and even bring about a sixth mass extinction. It's as if we're an asteroid colliding with the Earth and altering its orbit.

Anthropocene will necessarily be a time of experimentation and ferment in the sciences and humanities. This moment is not especially exhilarating, what with the widespread ecological disasters we face. But it's one that I think we should nevertheless seize. How we answer basic questions about the ontogenesis and composition of the Anthropocene world will have profound implications for how we know, value, and dwell in that world. In other words, how we answer these questions will shape how and for whom we go about making the world habitable.

Decolonization, at its most basic, is about dismantling the epistemic practices and political institutions of Euro-American domination and replacing them with alternatives that respect self-determination, equality, and difference. Firstly, then, it seems self-evident that any conversation about habitability in the Anthropocene should include diverse voices.

Colonized and marginalized peoples have far more to say about the challenges of the Anthropocene than they have opportunities to make their voices heard. It is time we listen.

Capitalism Made This Mess, and This Mess Will Ruin Capitalism

To understand climate change, one environmental historian says we need to realize we've entered a new era: the Capitalocene.

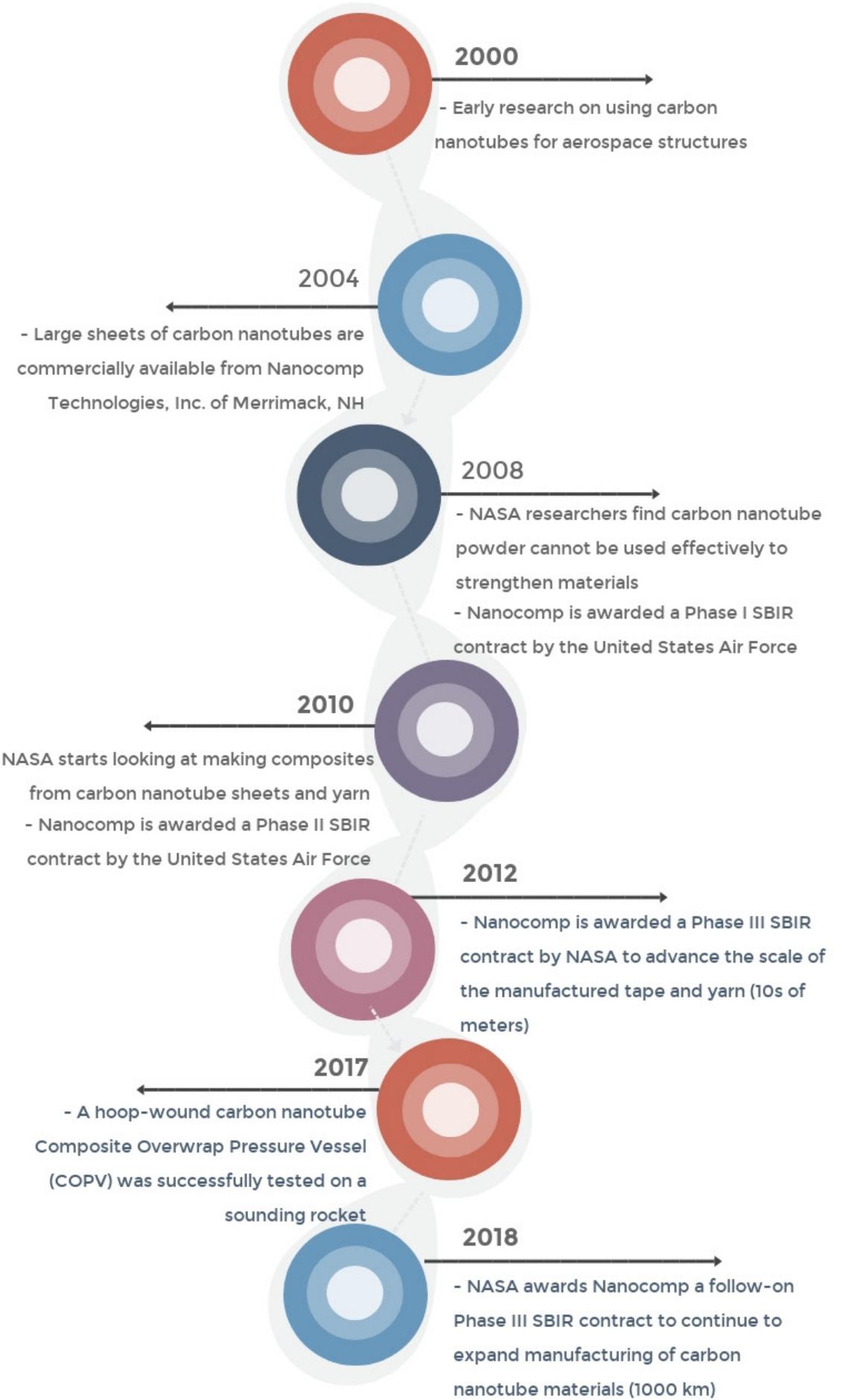
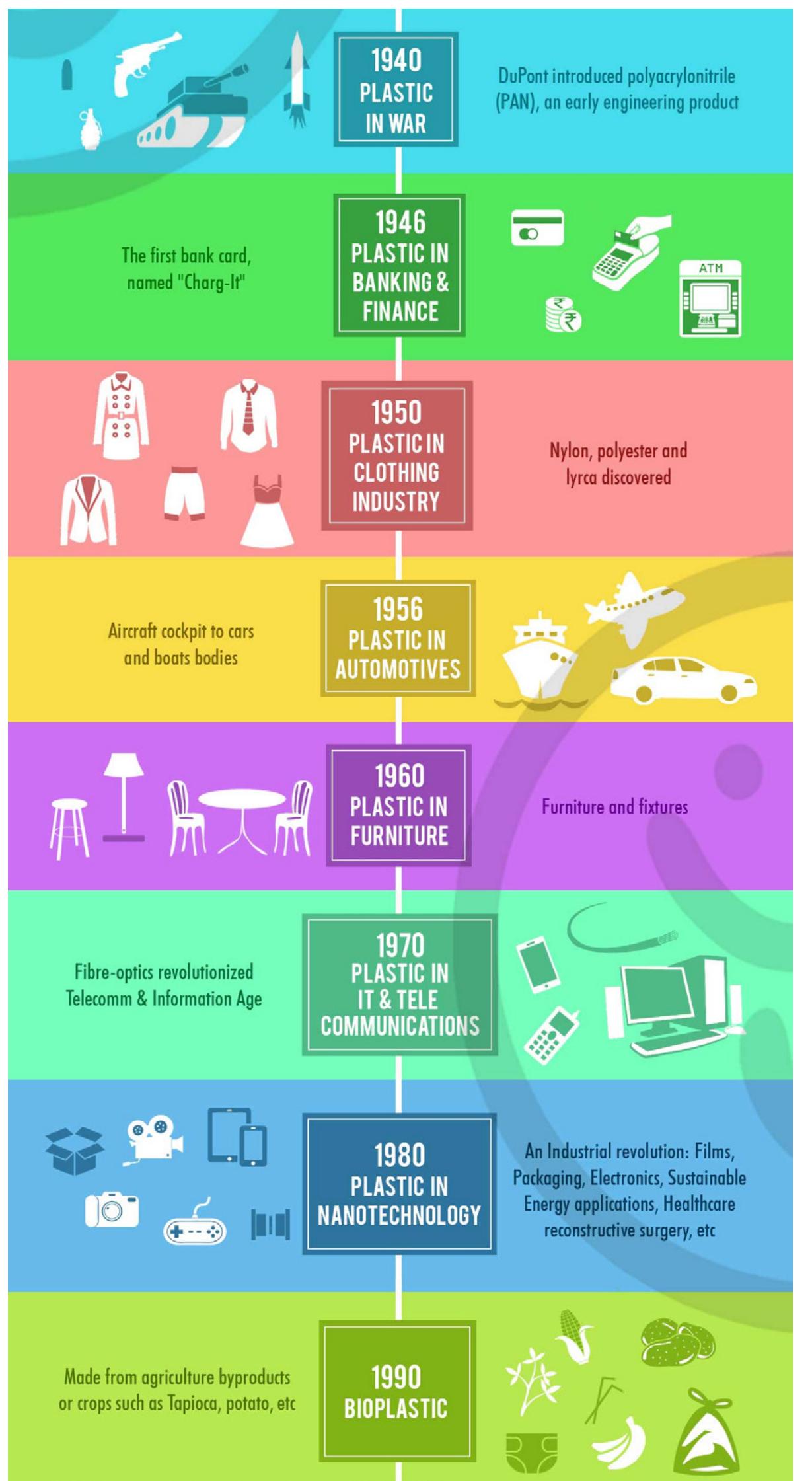
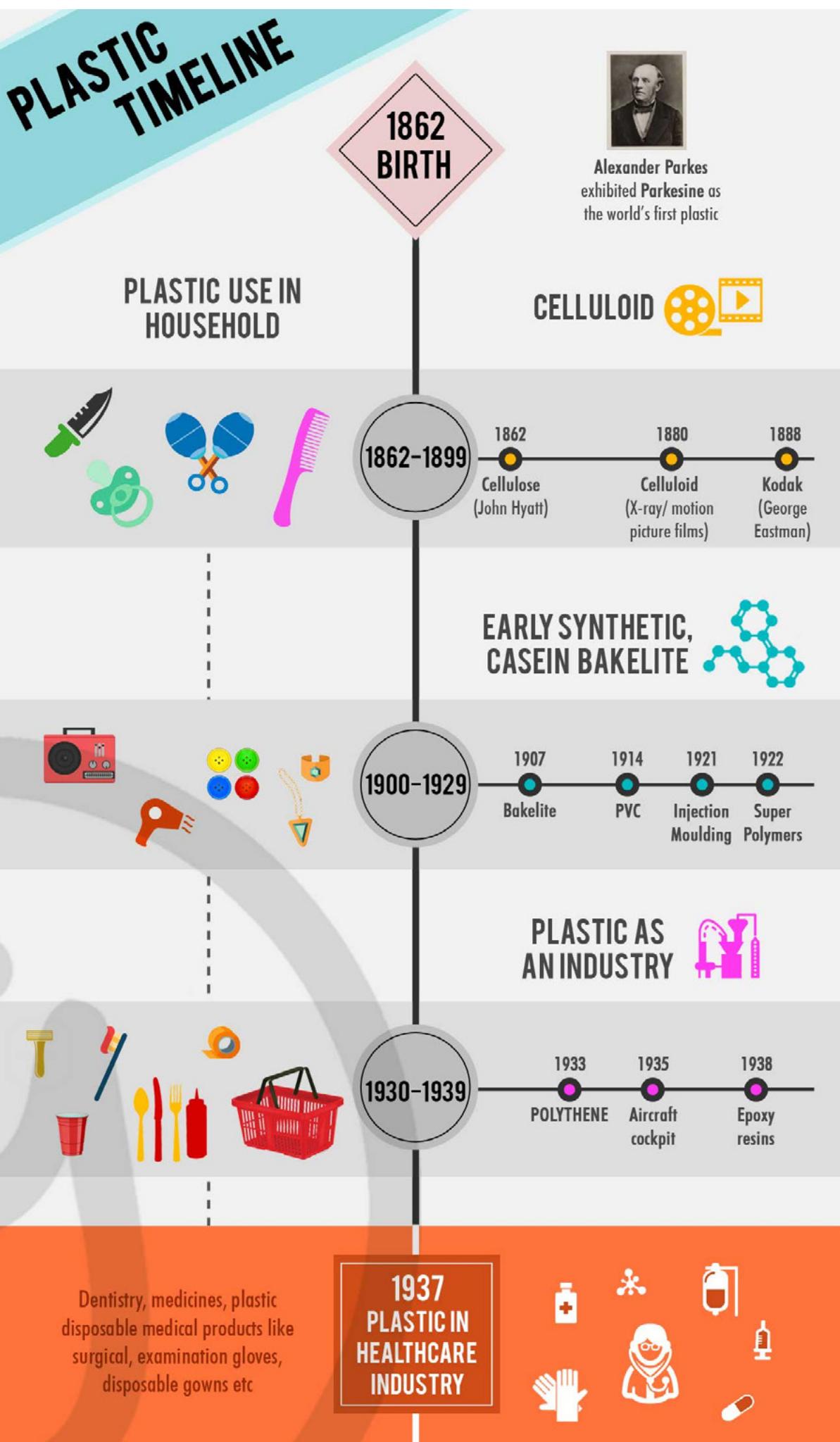
Capitalocene is a kind of critical provocation to this sensibility of the Anthropocene, which is: We have met the enemy and he is us. So the idea that we're all going to cover our footprints, we're going to be more sustainable consumers, we're going to pay attention to population, are really consequences of a highly unequal system of power and wealth.

It's very clear that the problem is not technological—there are the technological means to decarbonize very rapidly. Still, if you solarize and go with wind, you have to store all the energy, you have to rebuild the electrical grids. It's usually costly, and finance capital is really wary of those long-term projects.

Anthropocene Or Capitalocene? Nature, History, and the Crisis of Capitalism

Capitalocene is an ugly word for an ugly system. As Haraway points out, "the Capitalocene" seems to be one of those words floating in the ether, one crystallized by several scholars at once—many of them independently.

The Anthropocene sounds the alarm—and what an alarm it is! But it cannot explain how these alarming changes came about. Questions of capitalism, power and class, anthropocentrism, dualist framings of "nature" and "society," and the role of states and empires—all are frequently bracketed by the dominant Anthropocene perspective. Second, the contributors to Anthropocene or Capitalocene? all seek to go beyond critique. All argue for reconstructions that point to a new way of thinking humanity-in-nature, and nature-in-humanity.





Underground Tunnel and its Ventilation Tower w.r.t. Governors Island

The Brooklyn-Battery Tunnel connects Red Hook in Brooklyn with Battery Park in Manhattan. The tunnel consists of twin tubes that each carry two traffic lanes under the mouth of the East River. With a length of 9,117 feet (2,779 m), it is the longest continuous underwater vehicular tunnel in North America.

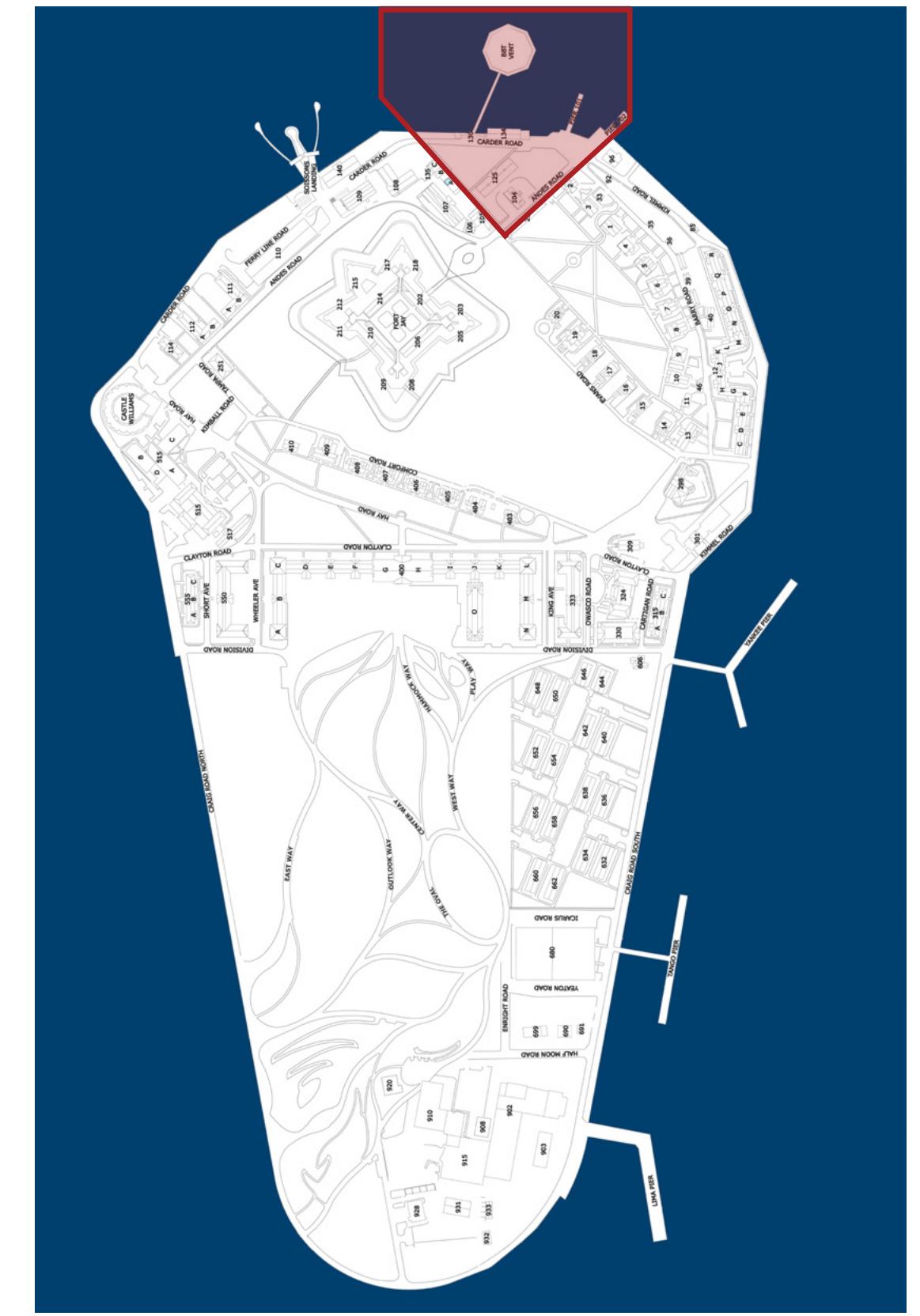
The tunnel is constantly sucking fumes out and bringing in fresh air from the surface. This is all because of the four ventilation chambers in Manhattan, Brooklyn, and Governor's Island that are so powerful that they can completely replenish the entire tunnel with fresh air every 90 seconds. As of 2016, the tunnel is used by 54,076 vehicles on an average weekday. The tunnel carries 28 express bus routes that connect Manhattan with Brooklyn or Staten Island. 38.36 metric tonnes of CO₂ emitted per day, only through the tunnel.



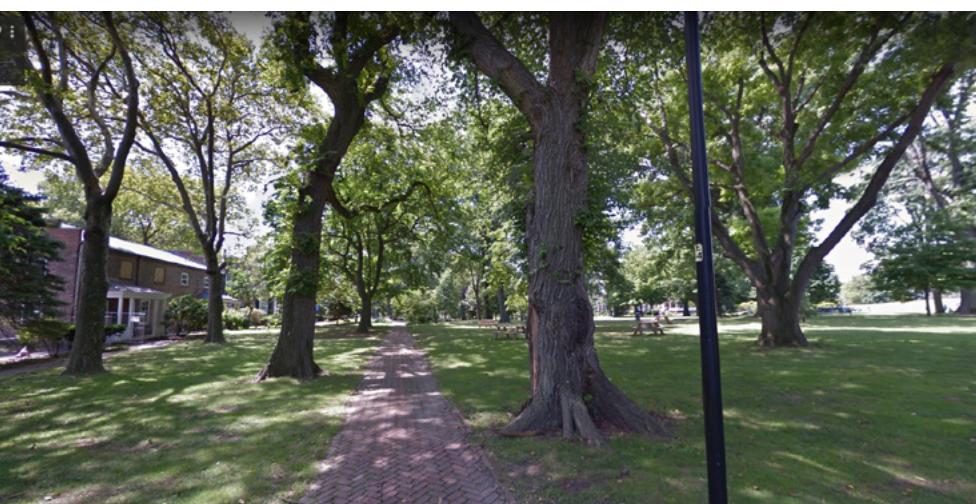
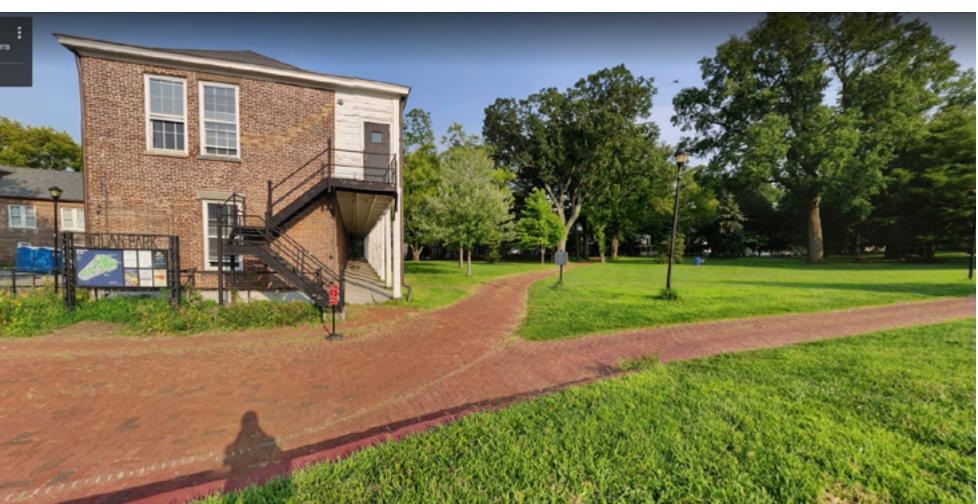
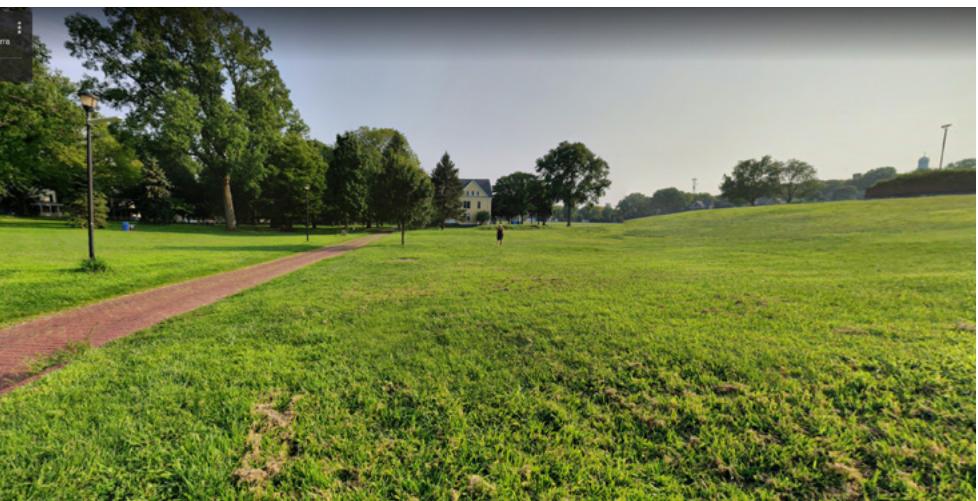
Carbon Fumes Spreading Over the Island, Dominating the Planted Green

During construction, tunnel engineers touted the ventilation system as being so efficient that the ventilation towers could blow 25,000 tons of clean air into the tunnel every hour. The system consists of 53 fans that each had a diameter of 8 feet (2.4 m).

The Brooklyn-Battery Tunnel is part of the Interstate Highway System, which is a 50,000-mile (80,000 km) system, consisting of five east-west routes and 10 north-south routes. IHS is approximately 28,800 times of Brooklyn-Battery Tunnel. If the prototype at the Governor's Island can tackle 14,000 tonnes of CO₂ every year along the 9,117 feet tunnel, it can also tackle 0.4 Gigatonnes across the entire Interstate Highway System.



■ Site Under Consideration and Site Images Alongside



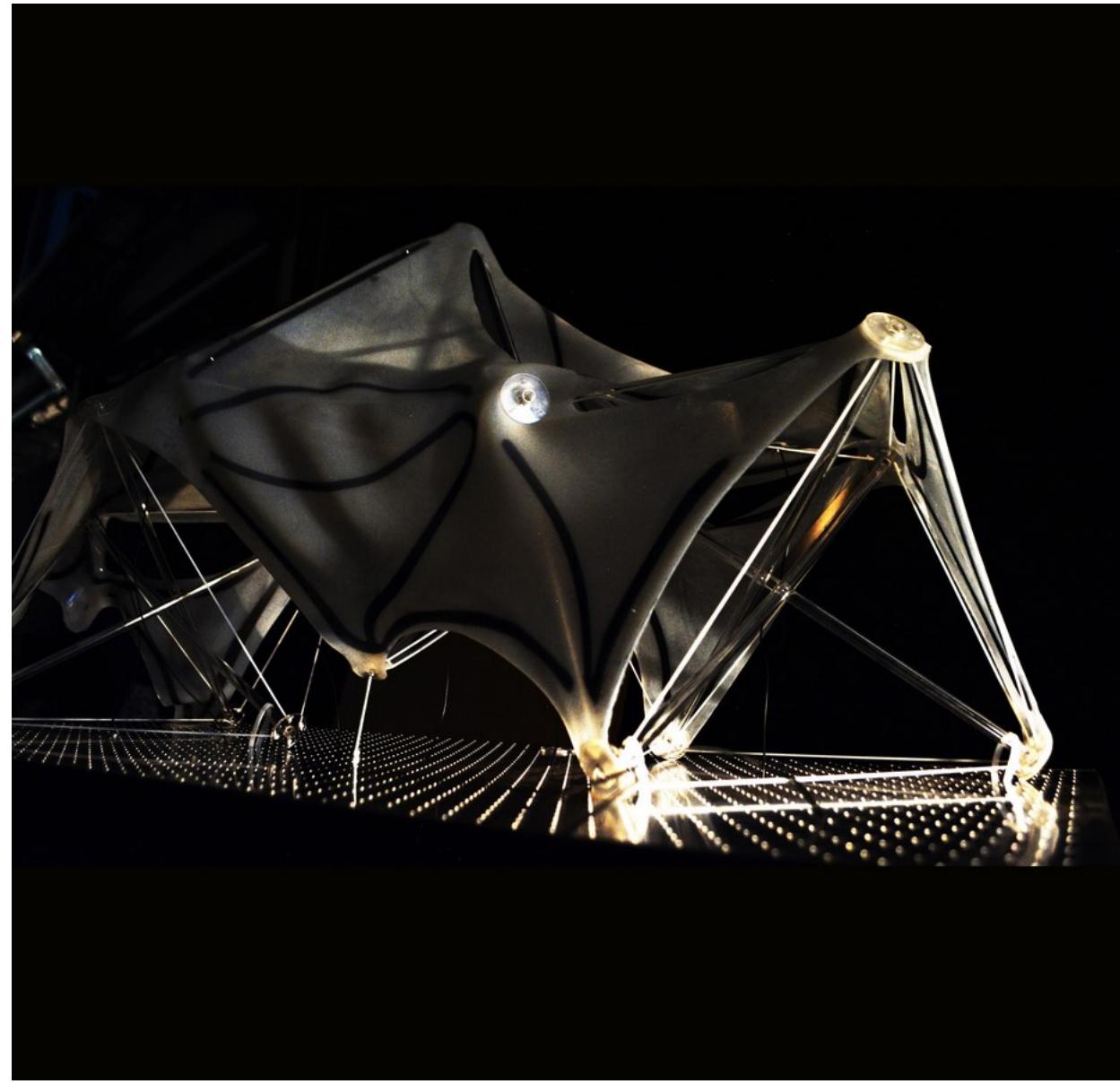
Mycelium & Graphene

Mycelium's fast-growing fibers produce materials used for packaging, clothing, food and construction—everything from leather to plant-based steak to scaffolding for growing organs. Mycelium, when harnessed as a technology, **helps replace plastics** that are rapidly accumulating in the environment.



The strongest of the bricks can withstand a load of several tons. Therefore, all sorts of structures can be built with these bricks, including the complex vault at the center of the Hy-Fi tower, which was built in less than a week

At the end of the two-month exhibition, the tower was dismantled and **the bricks were taken to composters, taking advantage of their natural biodegradability.**



Graphene is considered to be the **world's thinnest, strongest and most conductive material - of both electricity and heat**. All of these properties are exciting researchers and businesses around the world - as graphene has the potential to revolutionize entire industries - in the fields of electricity, conductivity, energy generation, batteries, sensors and more.

Thermal applications

Graphene is the most heat conductive found to date. As graphene is also strong and light, it means that it is a great material for making heat-spreading solutions, such as heat sinks or heat dissipation films. This could be useful in microelectronics (for example to make LED lighting more efficient and longer lasting)

Energy storage

Since graphene is the world's thinnest material, it also extremely high surface-area to volume ratio. This makes graphene a very promising material for use in batteries and supercapacitors. Graphene may enable batteries and supercapacitors (and even fuel-cells) that can store more energy - and charge faster, too.

Coatings, sensors, electronics

Graphene has a lot of promise for additional applications: anti-corrosion coatings and paints, efficient and precise sensors, faster and efficient electronics, flexible displays, efficient solar panels, faster DNA sequencing, drug delivery, and more.

**We Invite Artists, Architects, Building
Construction Industry, Climate Activists,
Researchers, Historians, Scientists,
Environment Enthusiasts, and Everyone Else.**



Studio Folder, Italy

Data Visualisation and Research Agency

Narrative

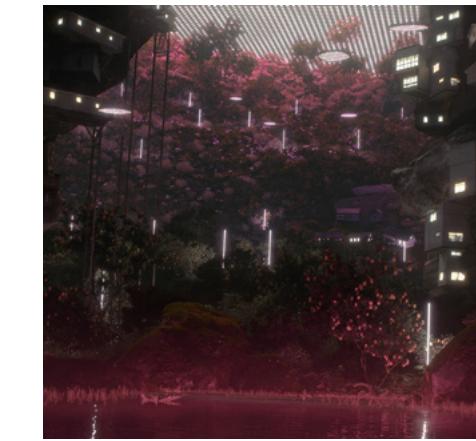
Focused on present scenario of land excavations for fossil fuels and it's impact on climate and people through the example of Kiruna.



Architect, Film Director, Author

Liam Young, Australia

Focused on the future of urban densification and need to surrender the land for ground replenishment through the example of Planet City.



Artist, Arts & Community Organizer, Non-institutional Teaching

Sissel Marie Tonn, Netherlands

Focused on impacts of land excavation in the future years through her 'Intimate Earthquake Archive's' multi sensory experience.



Artists, Architects, Programmers, Engineers, Animators, Mathematicians

Team Lab, US, UK, China, Australia, South Korea, Singapore

Focused on exploring relationship between humans and nature through art, science and technology and thus creating an immersive experience.



Educators

Guerilla Science, US, UK

Focused on connecting people who believe 'science is not for them' with science through practical training workshops and live performances.

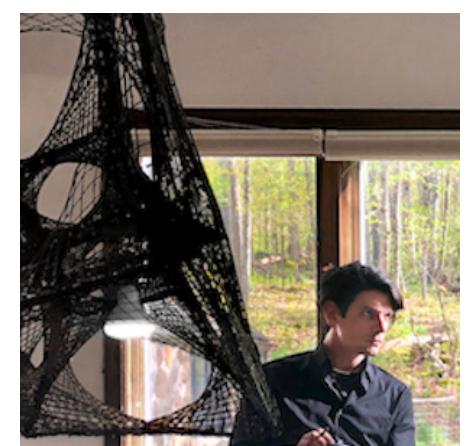


CLIMATE

SCIENCE

ARCHITECTURE

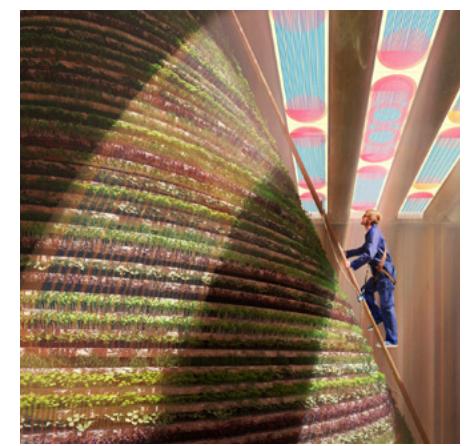
PEOPLE



Ezio Blasetti, Greece

Focused on new material- Graphene, a carbon composite, and it's methods of fabrication, use and the potential to revolutionize the building material industry.

Architect, Educator



V8 Architects, Netherlands

Focused on building a biotope with an intense sensory experience uniting water, energy and food; further focusing on growing of mushrooms and it's use as a sustainable material.

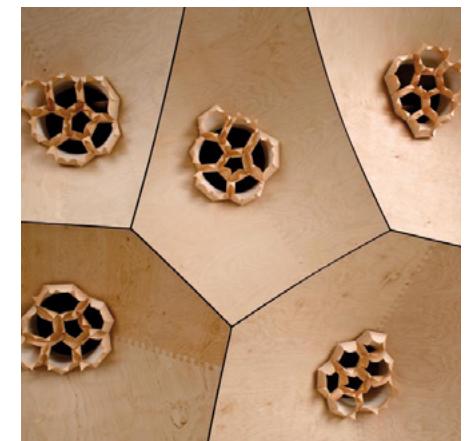
Sustainable Architecture Firm



Waiwai, UAE, Japan

Focused on replacing concrete with Subkah, a wetland formed in UAE, and making it compatible for world use and weight bearing, in order to largely reduce CO2 emissions.

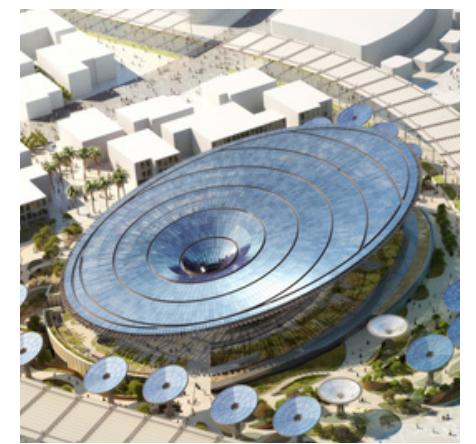
Sustainable Architecture Firm



Achim Menges, US, UK

Focused on new material- Graphene, a carbon composite, and it's methods of fabrication, use and the potential to revolutionize the building material industry.

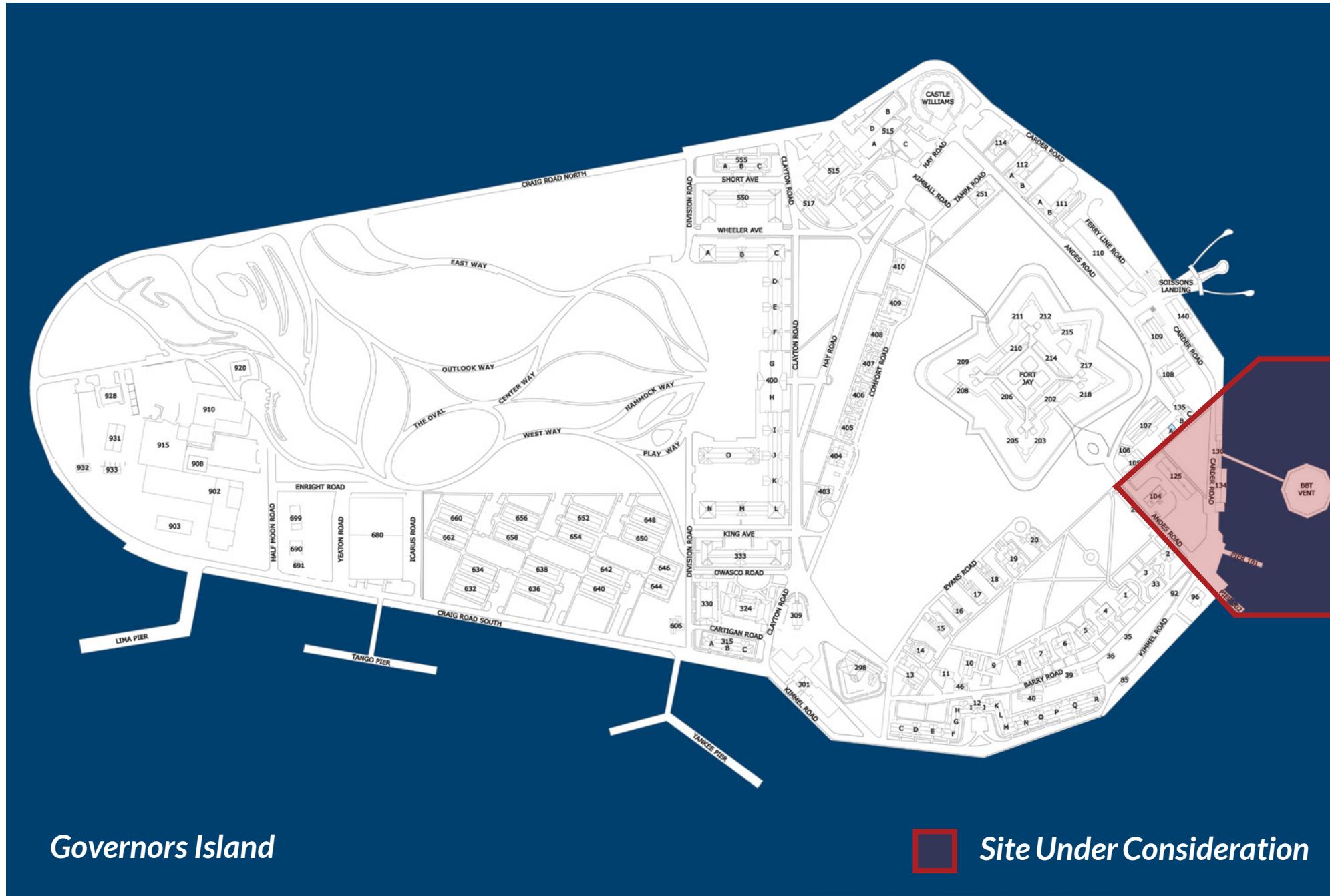
Architect in Computational Design, Researcher, Educator



Grimshaw, US, UK, UAE, France, Australia

Focused on implementation of leading edge technology for long term sustainable future with the focus on leaving net zero carbon footprint.

Sustainable Architecture Firm



1. Life's On The Edge

Studio Folder
Liam Young
Sissel Marie Tonn

2. Nature Saves Nature

V8 Architects
Waiwai Studio

3. Believe It's True

Team Lab

4. Fabricating Future

Ezio Blasetti
Achim Menges
Grimshaw Architects

5. Time Travel Tomorrow

Guerilla Science



Introduction

Studio Folder participated in ArkDes's exhibition Kiruna Forever. Located in Lapland, within the Arctic Circle, Kiruna and many of its 18,000 residents are being relocated to New Kiruna, two miles to the east over the next 20 years. We invite Studio Folder to exhibit a narration of this urban relocation and its impact on residents.

'Planet City' is an urgent examination of the productive potential of extreme densification in an imagined future where ten billion people surrender the rest of the planet to a global wilderness. In a vision that runs counter to our current world, we invite Liam Young to describe a radical reversal of planetary sprawl, where humans retreat from our vast network of cities and supply chains into one hyper-dense metropolis.

Collaborators

Studio Folder

Liam Young

Sissel Marie Tonn

Brief - Storytelling

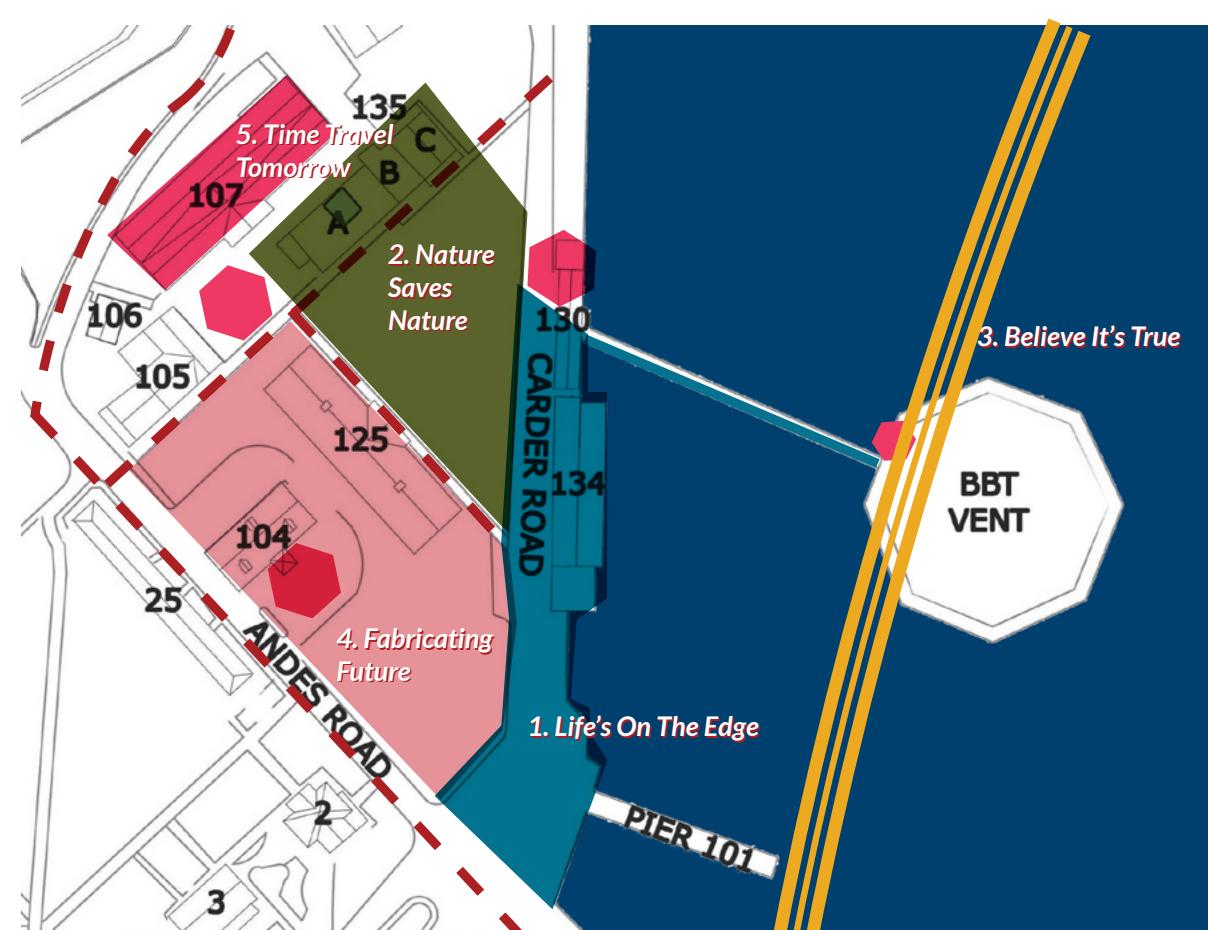
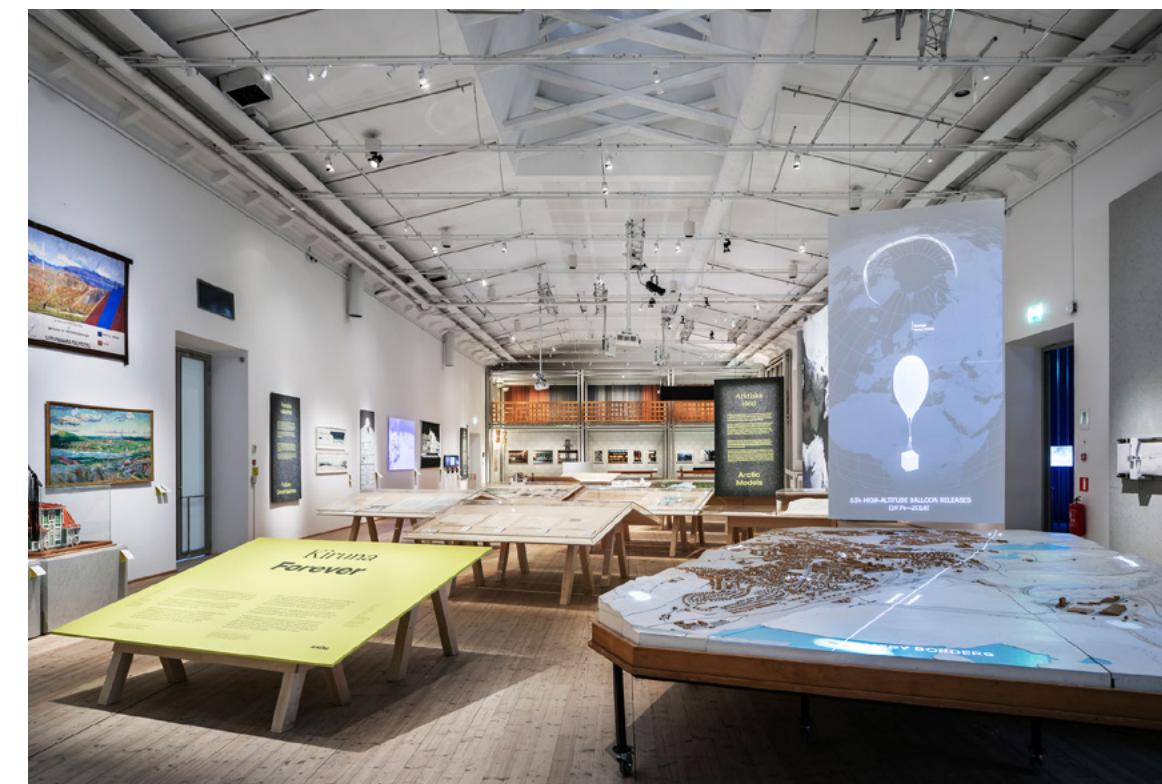
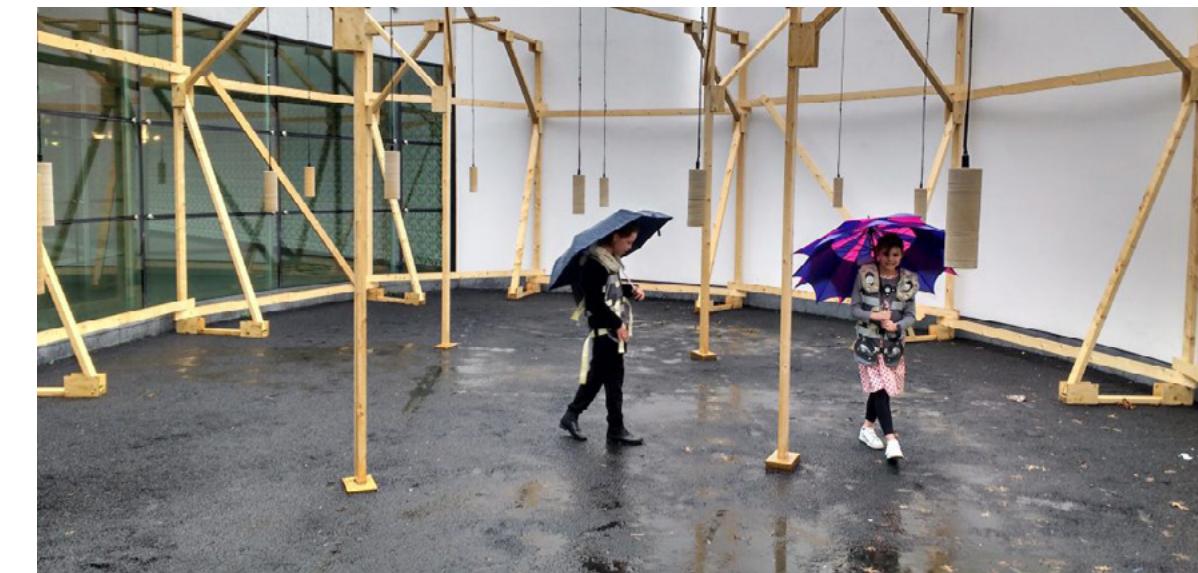
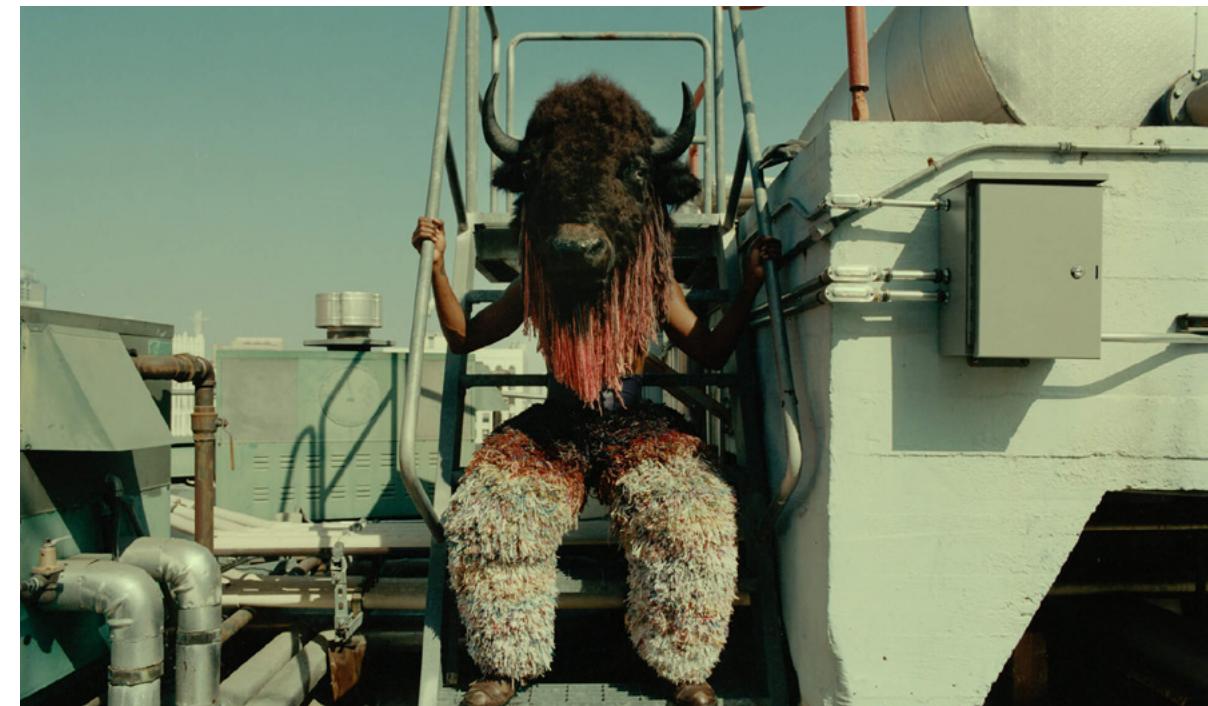
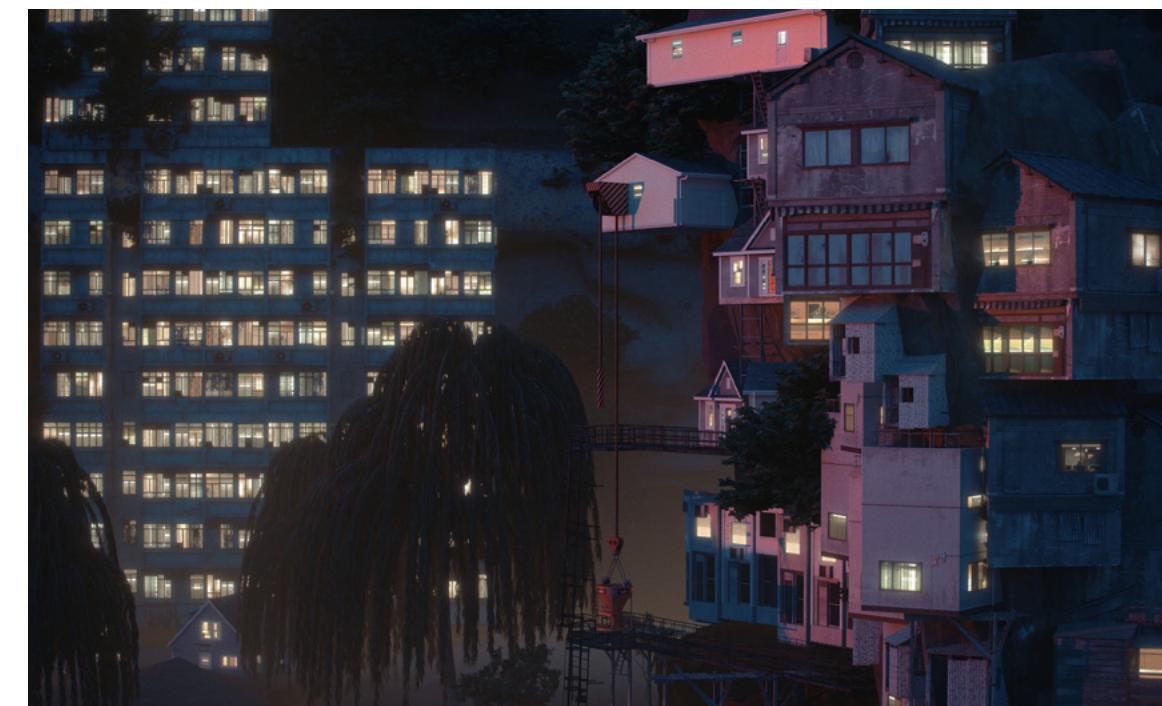
Studio Folder, Liam Young and Sissel Marie Tonn together build a narrative on how the land today is shifting for our need to extract fossil fuels, and how the planet is densified by human dominance. They translate the impacts of unhealthy extraction practices, burning of non-renewables and carbon saturation in the environment into a physical experience.

The pavilion tells the story of how we are truly living on the edge, risking that last push into an apocalypse.

Experiences

- Physical models to showcase shifting edges, urban densification, and digital projection over it to communicate future possibilities if current unsustainable practices sustain.
- A film directed by Young narrating alternate optimistic future if we surrender the planet for its replenishment.
- Experience an emotional rollercoaster ride through physically connecting all your senses with impacts of urban sprawl like earthquakes, contaminated air for breathing, etc.
- Performance artists challenging human perceptions doing day to day activities.

Life's On The Edge



The Intimate Earthquake Archive

We invite Sissel Marie Tonn with her interactive wearable artwork, tactile earthquake vests and haptic compositions derived from the seismic archive of the Groningen gas fields, interactive radio broadcast system sandstone earth core samples, wooden scaffolding.

Introduction

Nature Saves Nature

This pavilion is the embodiment of the V8 architects' concept of 'uniting water, energy, food' that demonstrates the connection this country is so good at making between sustainable energy, water management, agriculture and circularity.

The exhibition will explore how the salt compounds found in the UAE's sabkha (salt flats) could inspire alternative renewable building materials.

Collaborators

V8 Architects

Waiwai Studio

Brief - Producing Food, Water & New Material

We invite V8 Architects to create a temporary Biotope which can largely produce mushrooms, to be further used for creating mycelium. The Pavilion also aims at generating food and clean water on a drinking-water-deprived site.

We invite Waiwai studio to demonstrate their research on Sabkha-a potential replacement for concrete in the world. They encourage each country to look for local materials that can serve as a wealth to fight climate crisis across the planet.

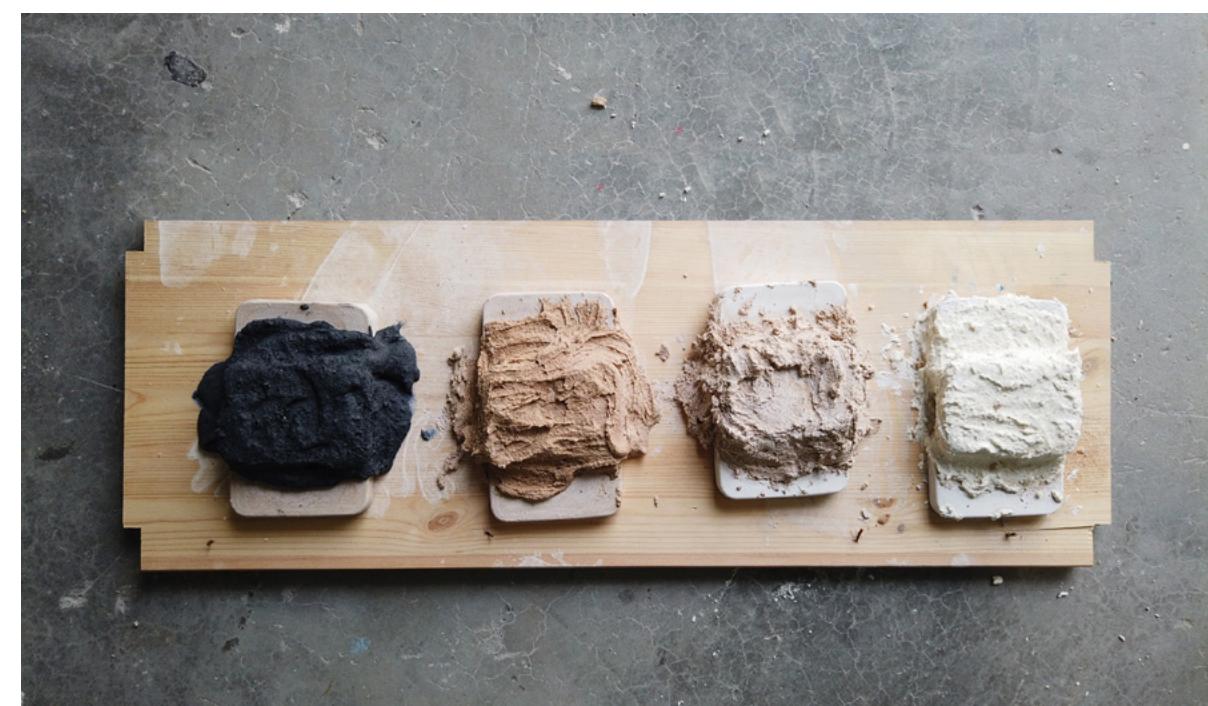
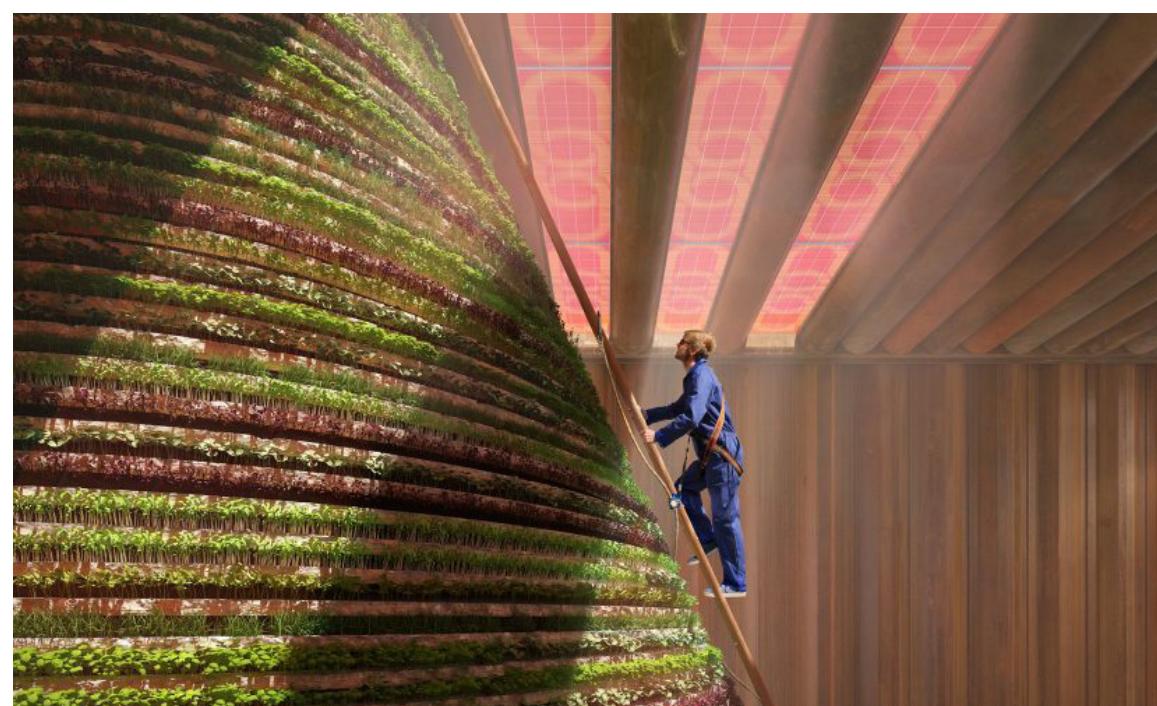
Experiences

-People can contribute in harvesting mushrooms and other food ingredients, while learning it's translation in meals and materials.

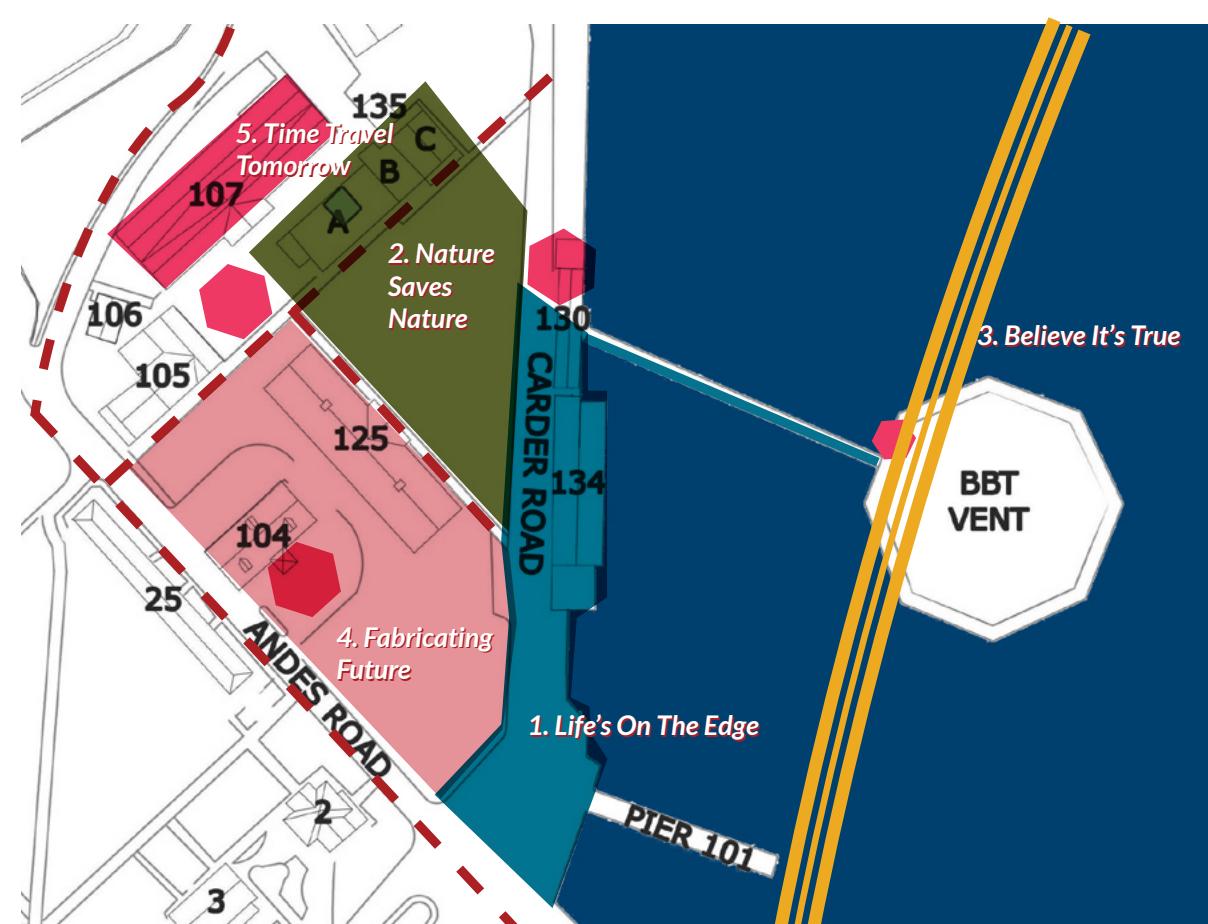
-Visitors can witness the construction method and materialization that makes the closed-loop circularity concept intelligible here, expressed through drawings and guides.

-A sensorially rich experience of skills in the field of innovative water, energy and food harvesting.

-Experience new material textures, its load bearing capacity, and vision to replace concrete in the future through physical exhibits.



The pavilion will be built using a construction method and materialization that makes the closed-loop circularity concept intelligible. To minimize transport, the entire pavilion will be constructed with locally sourced construction materials. All materials will be either given back or recycled after the expo closes, a strategy that will keep the pavilion's ecological footprint as small as possible.



Introduction

TeamLab is an international art collective, an interdisciplinary group of various specialists such as artists, programmers, engineers, CG animators, mathematicians and architects whose collaborative practice seeks to navigate the confluence of art, science, technology, and the natural world.

TeamLab aims to explore the relationship between the self and the world and new perceptions through art.

Collaborators

Team Lab

Brief - Advertising Exhibition Events and Climate Crisis

We invite TeamLab to use Graphene as an energy chip in their production technology. Further, energy conserved by 'Fabricating Future' Pavilion can be used for additional electricity requirements. TeamLab would become the primary source of advertisement throughout the timeline of the Biennale.

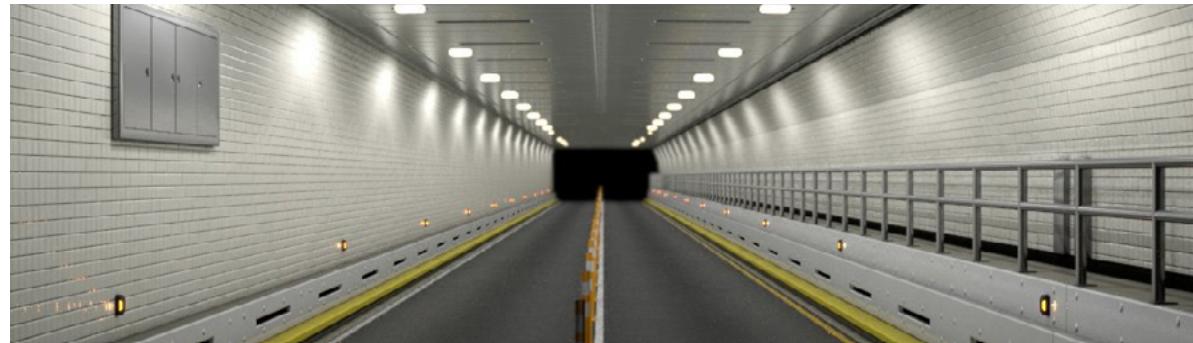
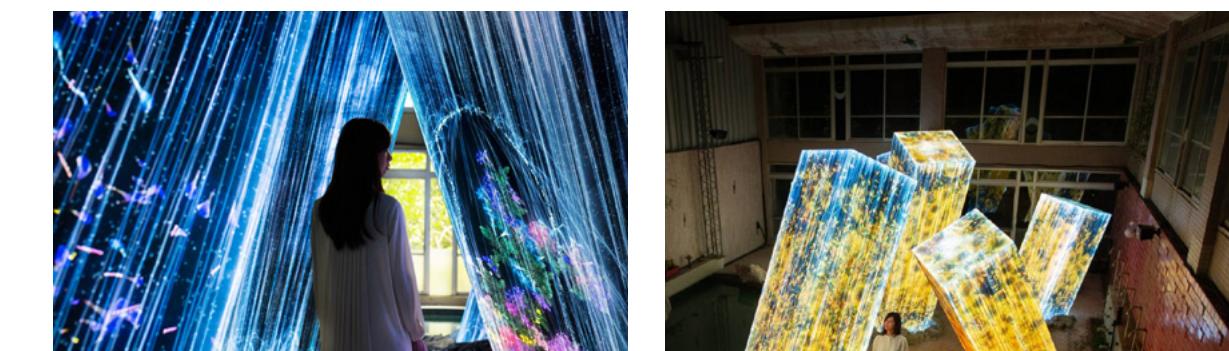
Experiences

- A new user interface on visitor's mobile application of CEB covering various topics of climate crisis. This can be used as a filter on social media sites.
- A continuous data updating visuals projected below the ventilation tunnel as a form of advertisement.
- These data include CO2 emmisions from cars, carbon capture technology by MIT students implemented on site, new event updates about the exhibitions, etc.

Believe Its True



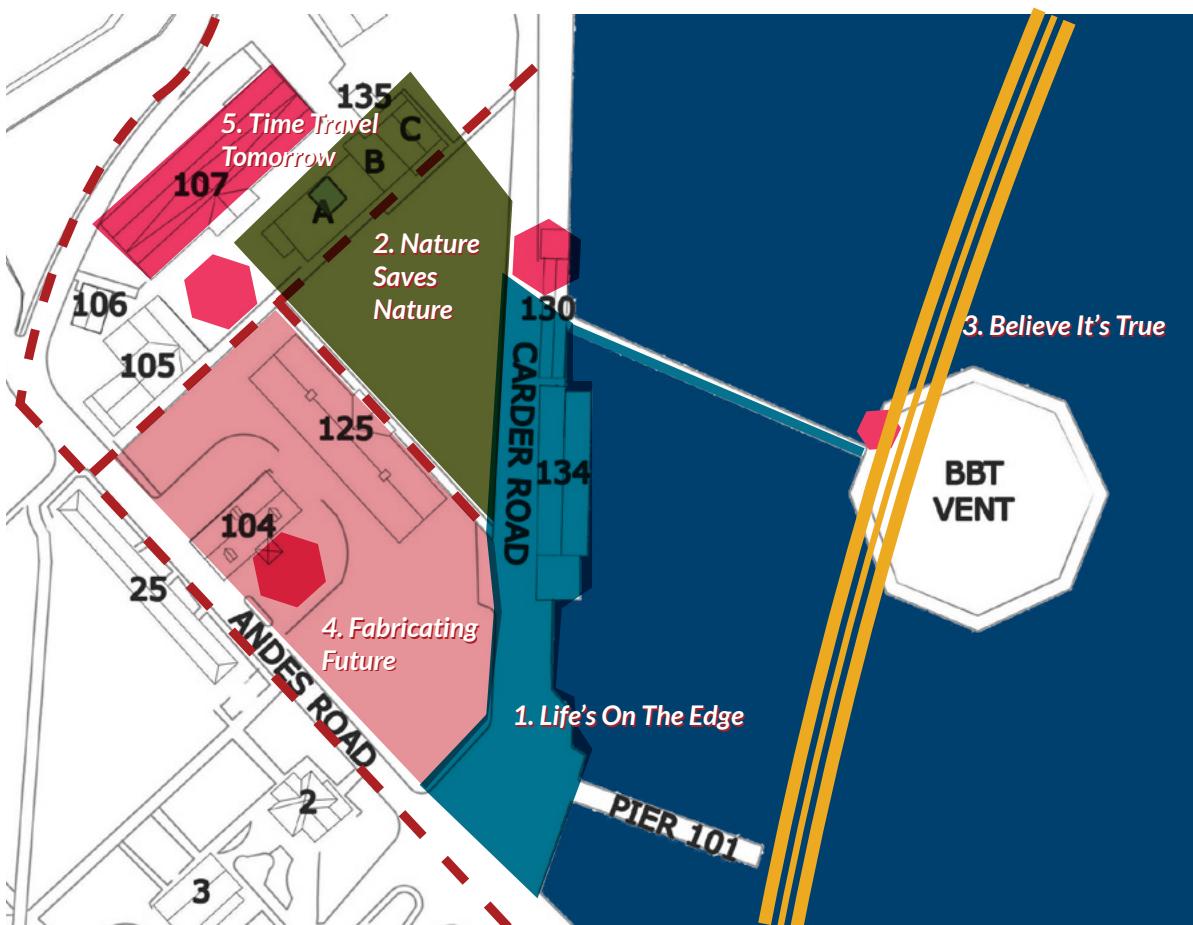
We invite Team Lab to translate this work of art on the exhibition's mobile application too.



The flowers grow according to the size of the space. If you are surrounded by ceilings or walls, they become the size of the space they are surrounded by, and if you are in a large area outside, they become very large. You can enjoy it anywhere you like, participate in it, and share it with the world. Your home or the place where you are becomes an art space. With the real flow of time, the flowers bloom, changing day by day according to the seasons. In the world seen through the camera of a smartphone with the TikTok app, flowers influenced by the environment of the real space will be born in real time.

Masses (Megaliths) of different space-times are clustered in the bath house ruins. The forest surrounding the bath house ruins is home to 3,000-year-old trees, and it changes daily with the imperceptible, slow flow of time, repeating every year, as a space where the endlessly long time accumulates. The bath house was made in modern times, but after just a short period, it was abandoned, becoming a space-time where time had stopped completely. And this group of megaliths is also a mass made up of compressed space-times where the flow of time varies.

The artwork is continuously rendered in real time by a computer program. It is neither prerecorded, nor on loop. As a whole, previous states never recur, and the artwork is continuously changing due to the movement of people. Every moment is unique and can never be seen again.



Introduction

There is a conscious redefining of material constraints through pattern and code, which incubates a search for progressive manufacturing methods. Pure algorithmic design encapsulates the potential for new patterns, which manifest around generative procedures through scripted logic. This abstract material logic embodiment enables an engagement with the complexities of organizational space.

Collaborators

Ezio Blasetti
Achim Menges
Grimshaw Architects

Brief - Fabricating Street Furniture, Producing Mycelium and Graphene

Fabricates mycelium from mushrooms and graphene from captured carbon.

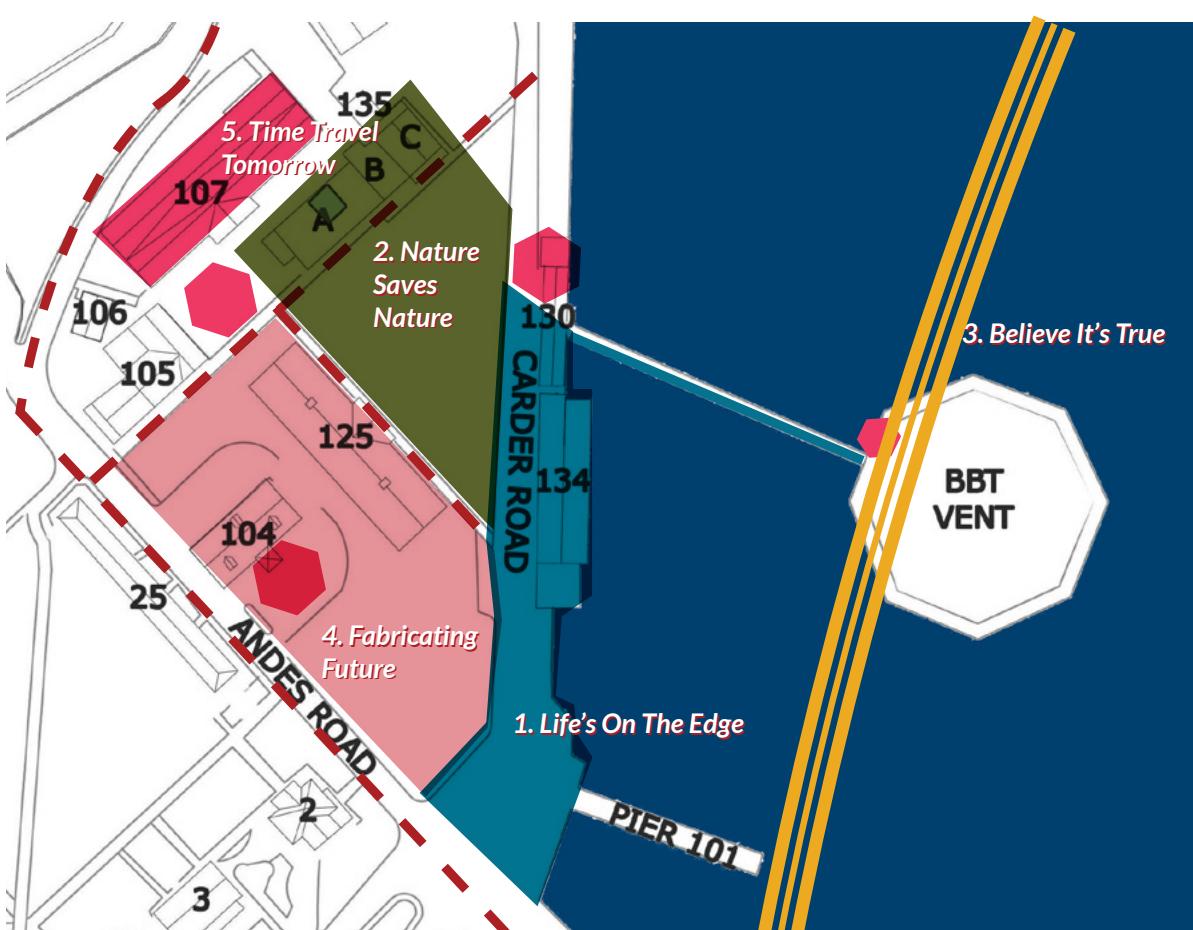
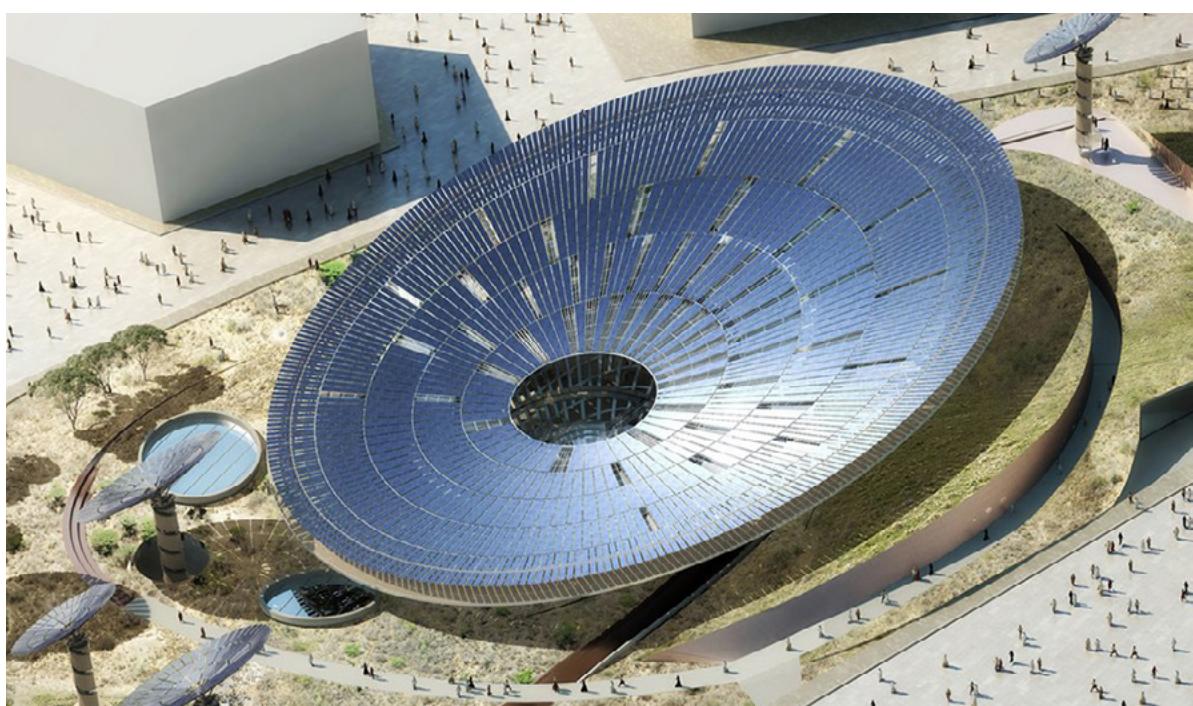
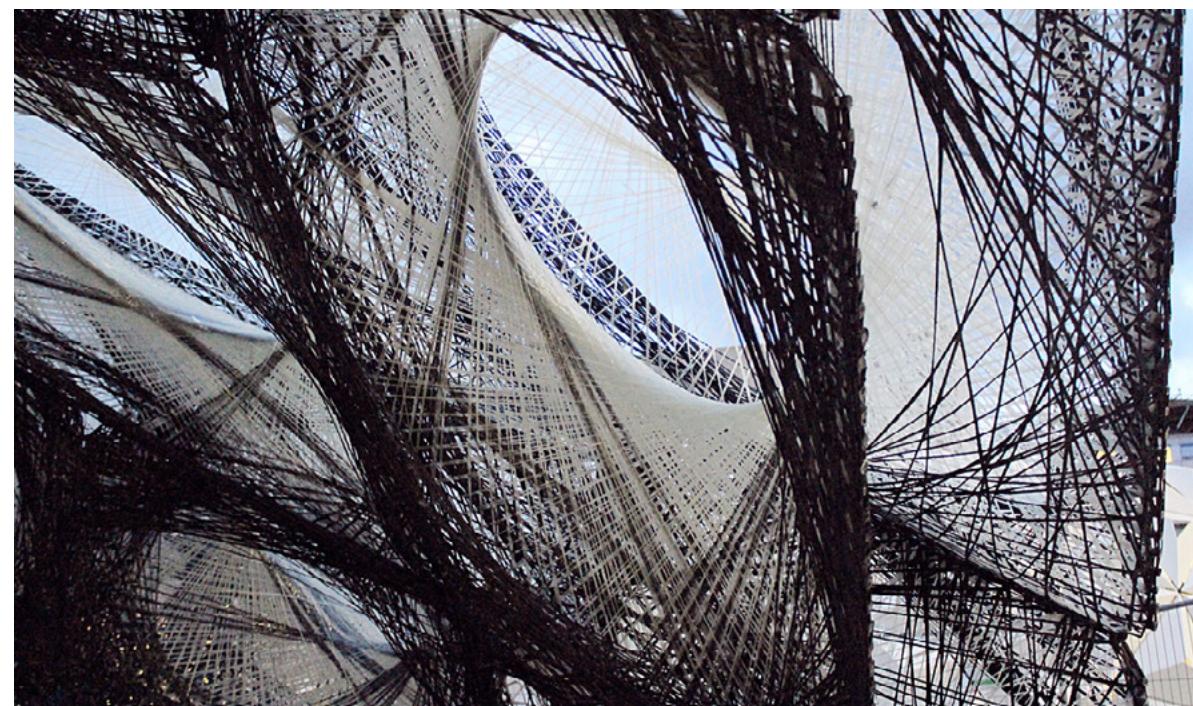
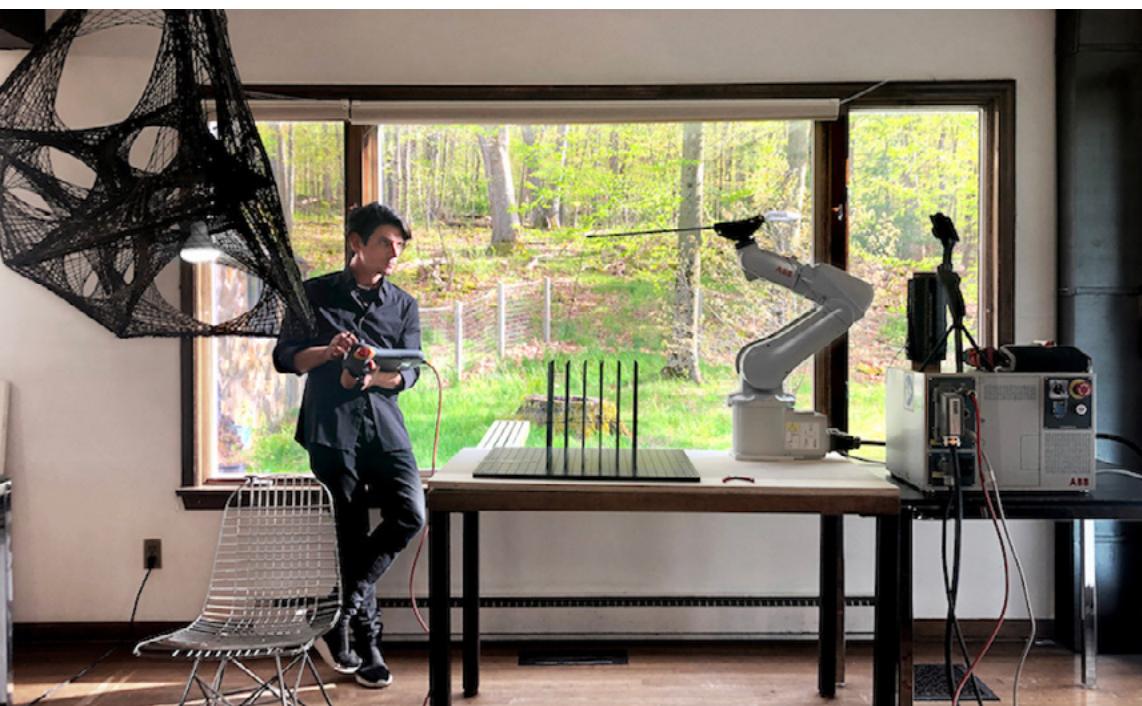
Fabricates mycelium products like chairs, benches, shades, packaging material, partition boards etc.

Captures and Conserves energy through kinetic pavilion.

Experiences

- A robot working on the grounds to produce new furniture through 3 months of timeline.

Fabricating Future



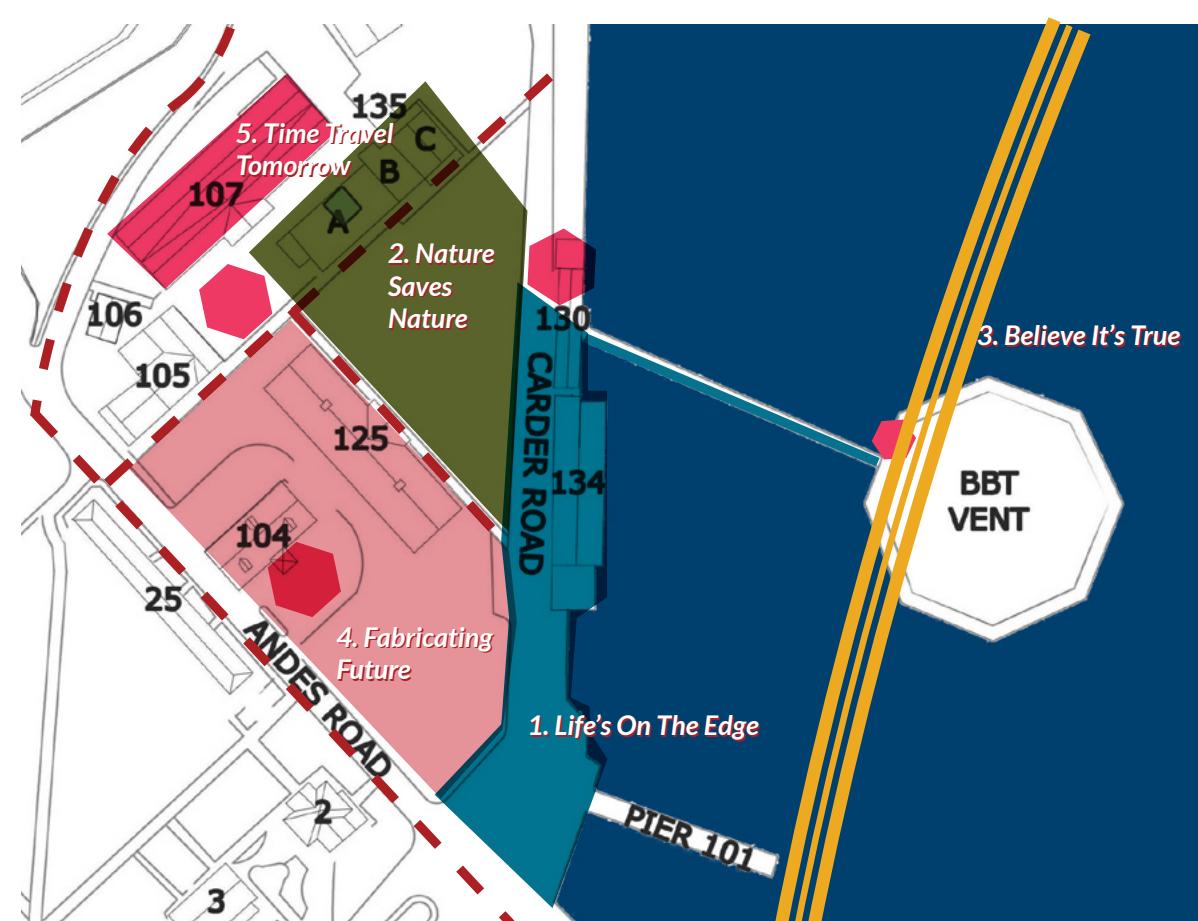
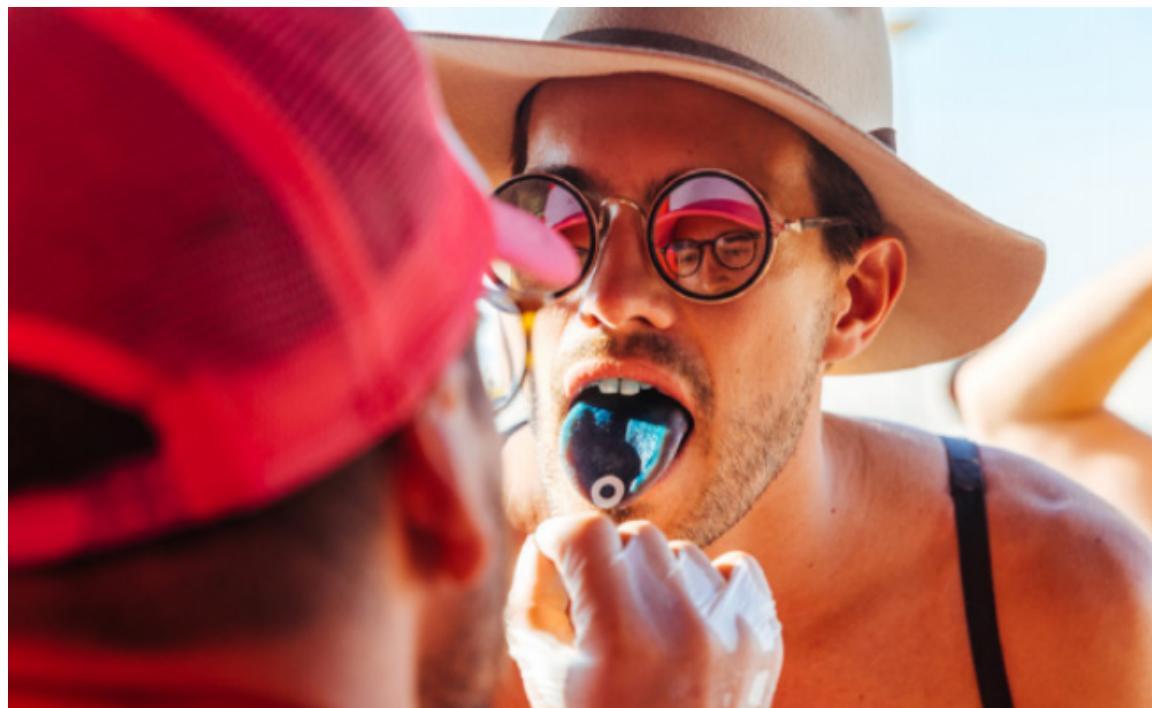
Introduction

Guerilla Science is on a mission to revolutionise how people connect with science through transformative experiences.

Guerilla Science brings the world's greatest discoveries out of cloistered laboratories and stuffy classrooms and into the realm of playful celebration, with the conviction that scientific insights belong to everyone and should be enjoyed by all.

They specialize in connecting audiences to scientific thinking by combining science with art, music and play to tell stories that inspire, challenge, and amaze. All of their work is driven by a core belief that science belongs to everyone, regardless of age, ethnicity, gender, education or socio-economic status.

Time Traveling Tomorrow



THEN

NOW

WHEN

STRATEGY

PAST

A talk by Prof. John Haldon



Talking about his long-term project:
the PIIRS Climate Change and History Research Initiative;
entitled A comparative approach to climate, environment and society in Eurasia, 300-1900.
Towards understanding the impact of climate on complex societies

PRESENT

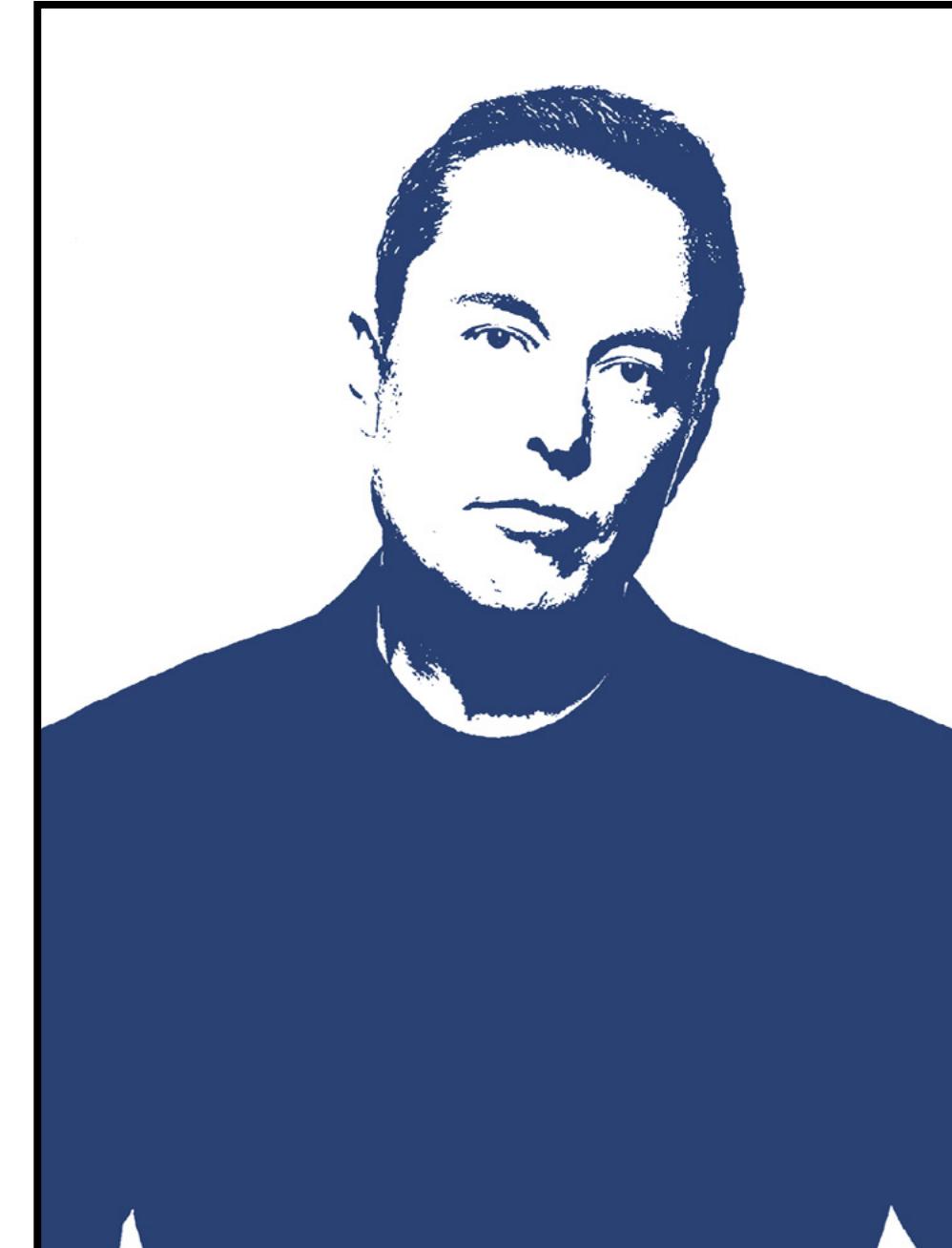
Press Conference by AOC



Taking up questions and addressing climate change:
Her propaganda and political agenda associated with environmental concerns &
Her answer to the question that the biennale proposes

FUTURE

Presentation by Elon Musk



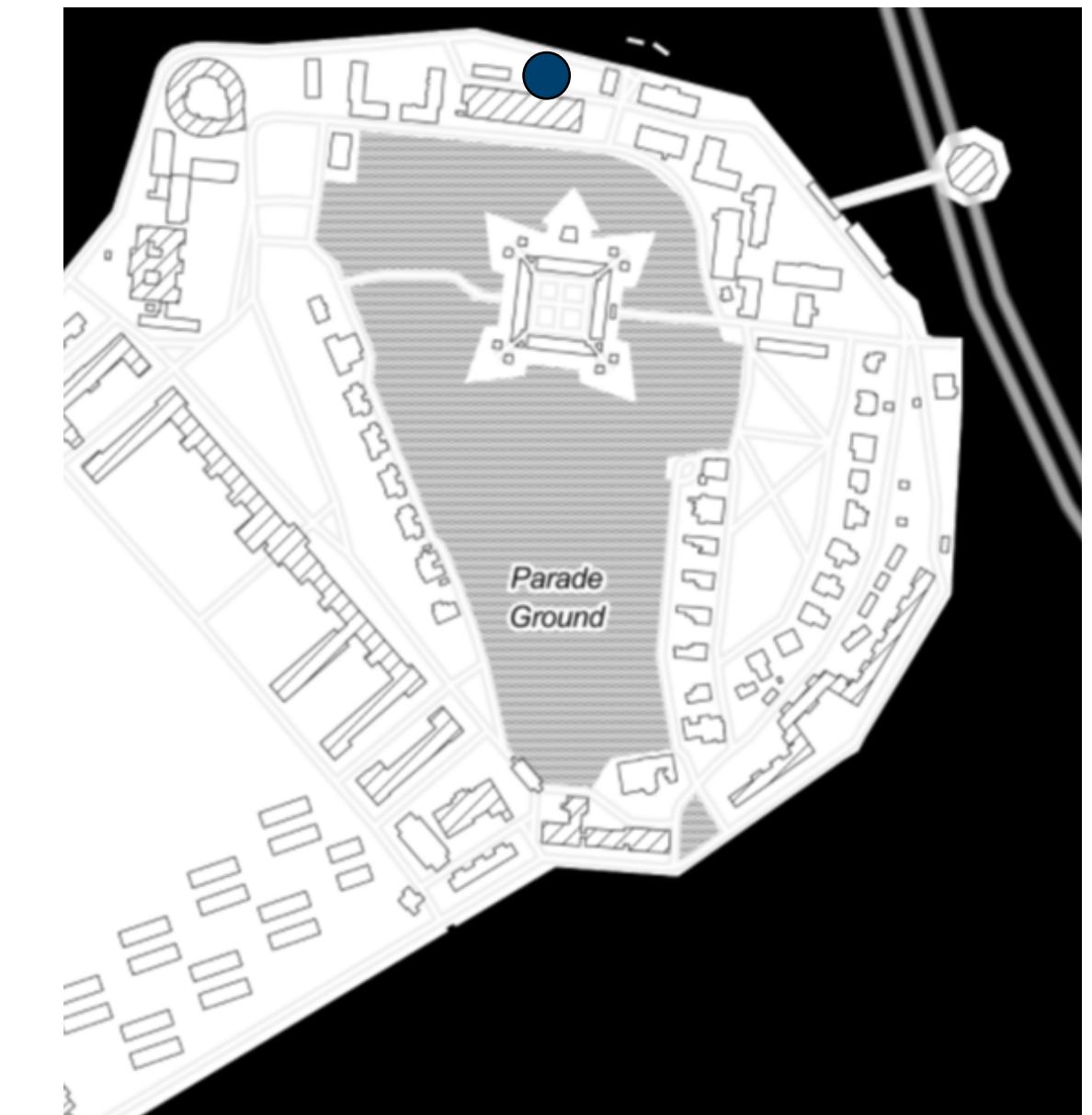
Putting out his idea about a new future:
With examples from his upcoming works, an imaginary scenario of a positive climate change.

- A single platform where the talk happens on the Governor's Island

- Larger outreach by projecting the panellists' speech on multiple screens placed on the island

- Posters on the App

- Getting in a larger crowd by involving globally known names



1. Life's On The Edge

Studio Folder
Liam Young
Sissel Marie Tonn



Kabage Karanja and Stella Mutegi

Founders of Cave Bureau



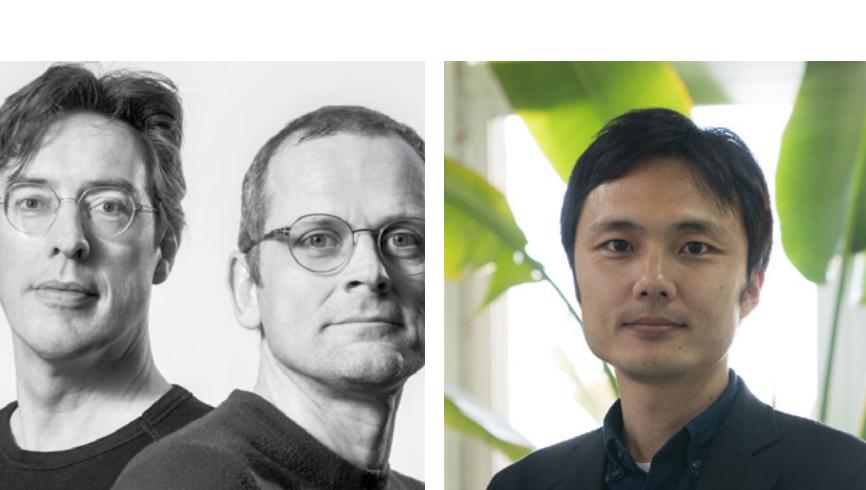
Carson Chen

He has variously curated and overseen more than 30 international exhibitions of contemporary art and architecture.

Architecture Writer, Curator

2. Nature Saves Nature

V8 Architects
Waiwai Studio



Greta Thunberg

Youth Icon for Climate Change since she was 14 years old is internationally known for challenging world leaders to take immediate action for climate change mitigation.

Swedish Climate Activist



Leonardo DiCaprio

Board Member of World Wildlife Fund, Global Green USA, and the International Fund for Animal Welfare; was named UN Messenger of Peace on Climate Change in 2014

American actor, film producer, and environmentalist



United Nations

A virtual conference with the team from UN where they address the Sustainability Development Goals and the need to achieve them in the drawn timeline.

Intergovernmental Organization



3. Believe It's True Team Lab



Jaden Smith

Founder of JUST WATER, a company that strives to make an alternative to petroleum-based products that require plastic and emit CO2 in production.

American actor, rapper, singer, and songwriter



Ellen DeGeneres

American talk show host, comedian and climate activist

4. Fabricating Future

Ezio Blasetti
Achim Menges
Grimshaw Architects



MIT Students

Students who designed the technology for capturing carbon at source which is implemented at the ventilation building on Governors Island

Students, Researchers

Chris Sacca

Founder of the 'Lower carbon capital' company which serves as a platform for all the start-up ideas relating to achieve net neutral carbon environment.

Founder and Chairman



Jing Liu

Liu envisions spaces for culture, learning and innovation while advocating for socio-political issues faced in the field of architecture.

Architect, Educator, Co-founder of SO-IL



5. Time Travel Tomorrow

Guerilla Science



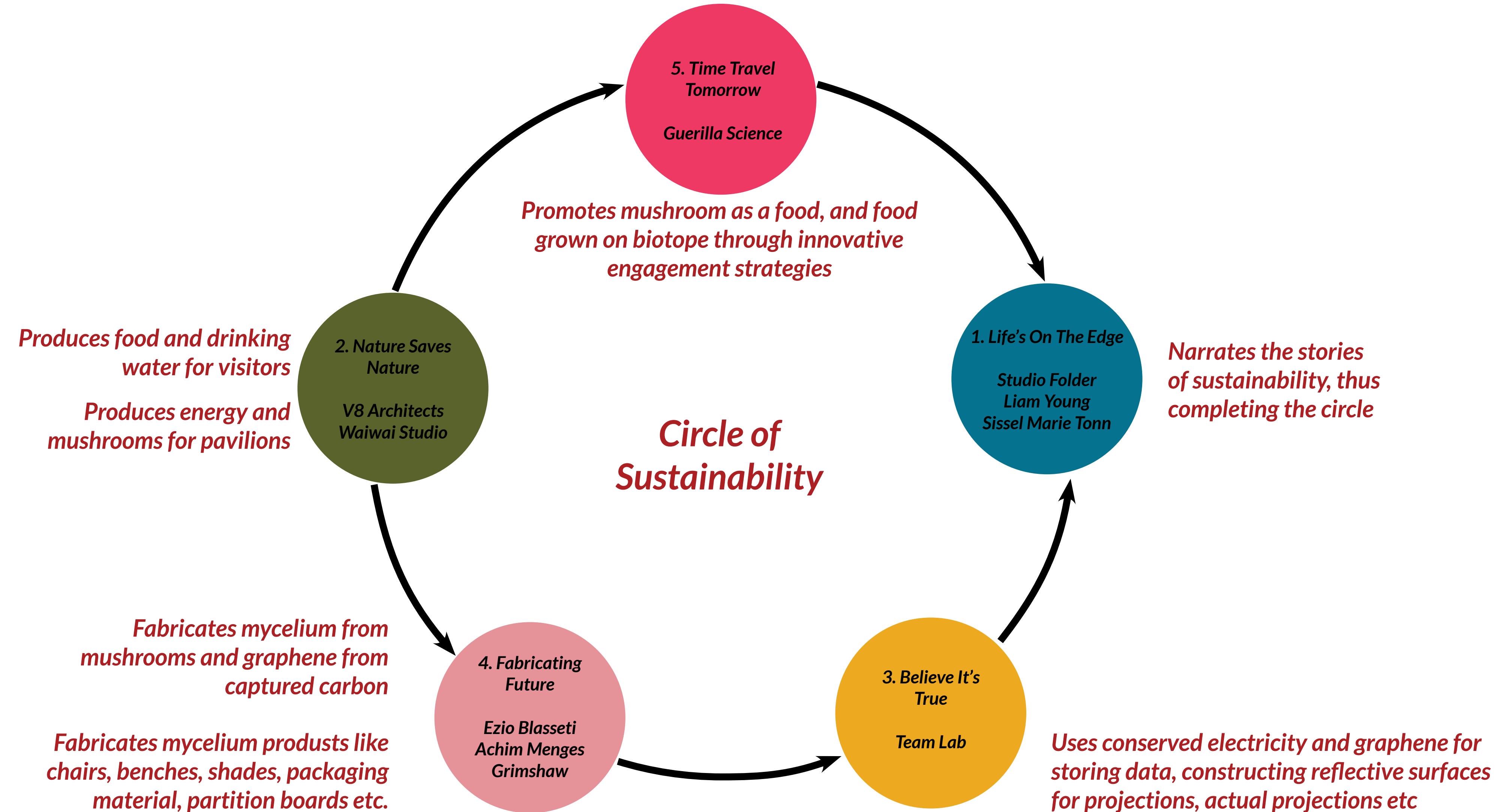
Mark Ruffalo

Founder of the clean water organization 'Water Defense' since 2010, The Earth Avenger doesn't just see green as the Hulk. Activist of ending use of chemicals in water bodies.

American actor and producer

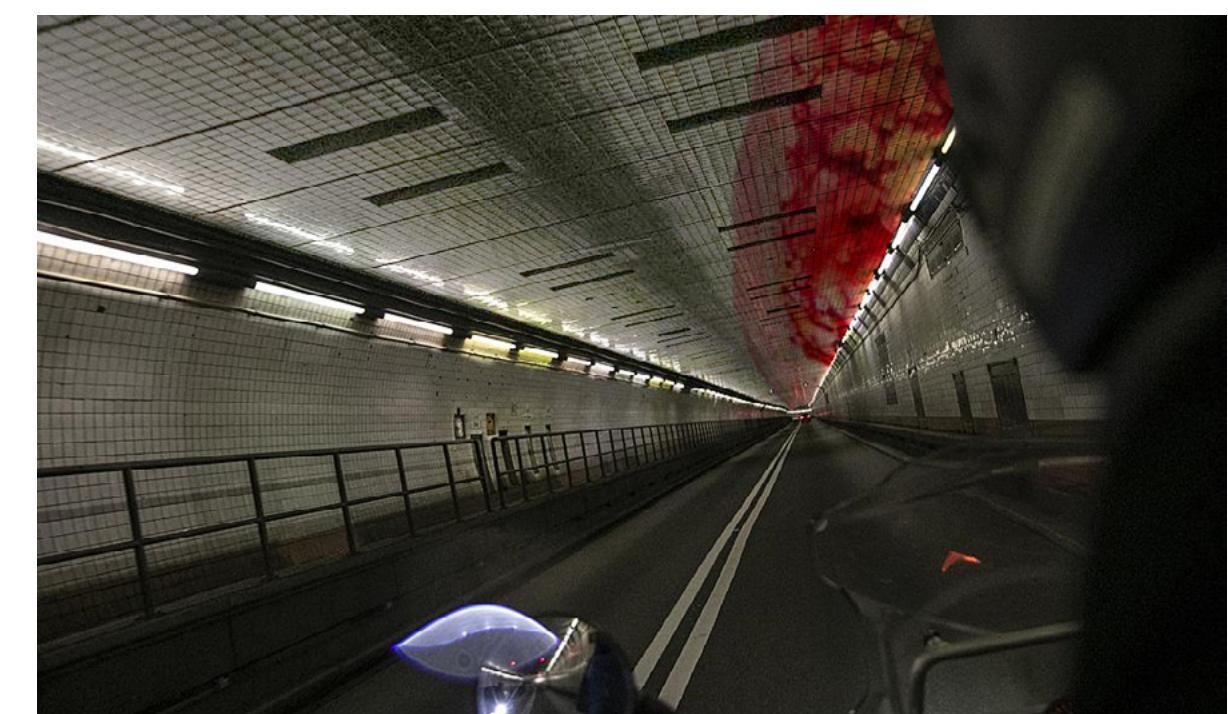


mycelium products





Social Media Partners



Underground Tunnel Projections



NYC Parades

CLIMATE emergency

b i e n n a l e



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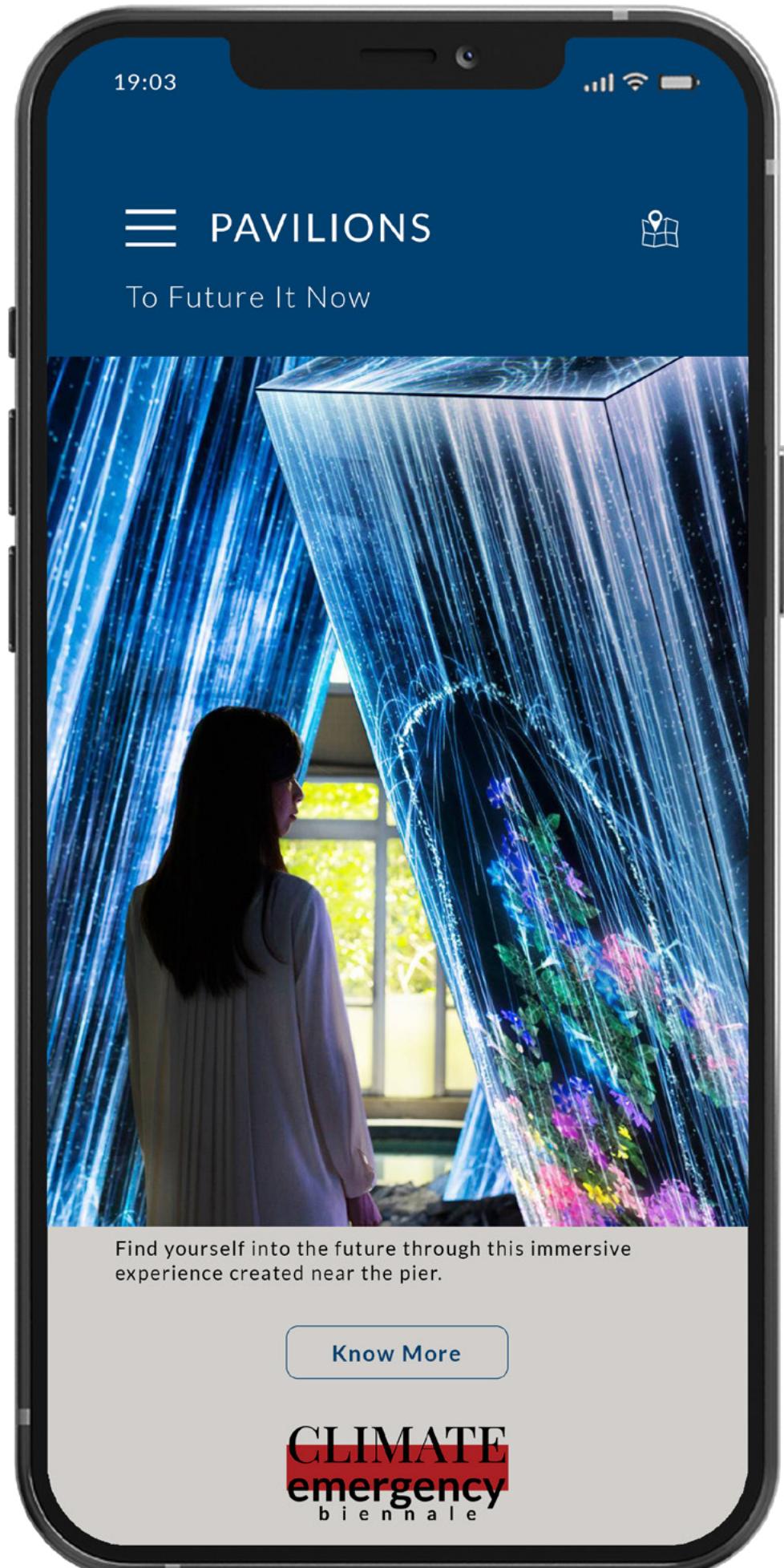
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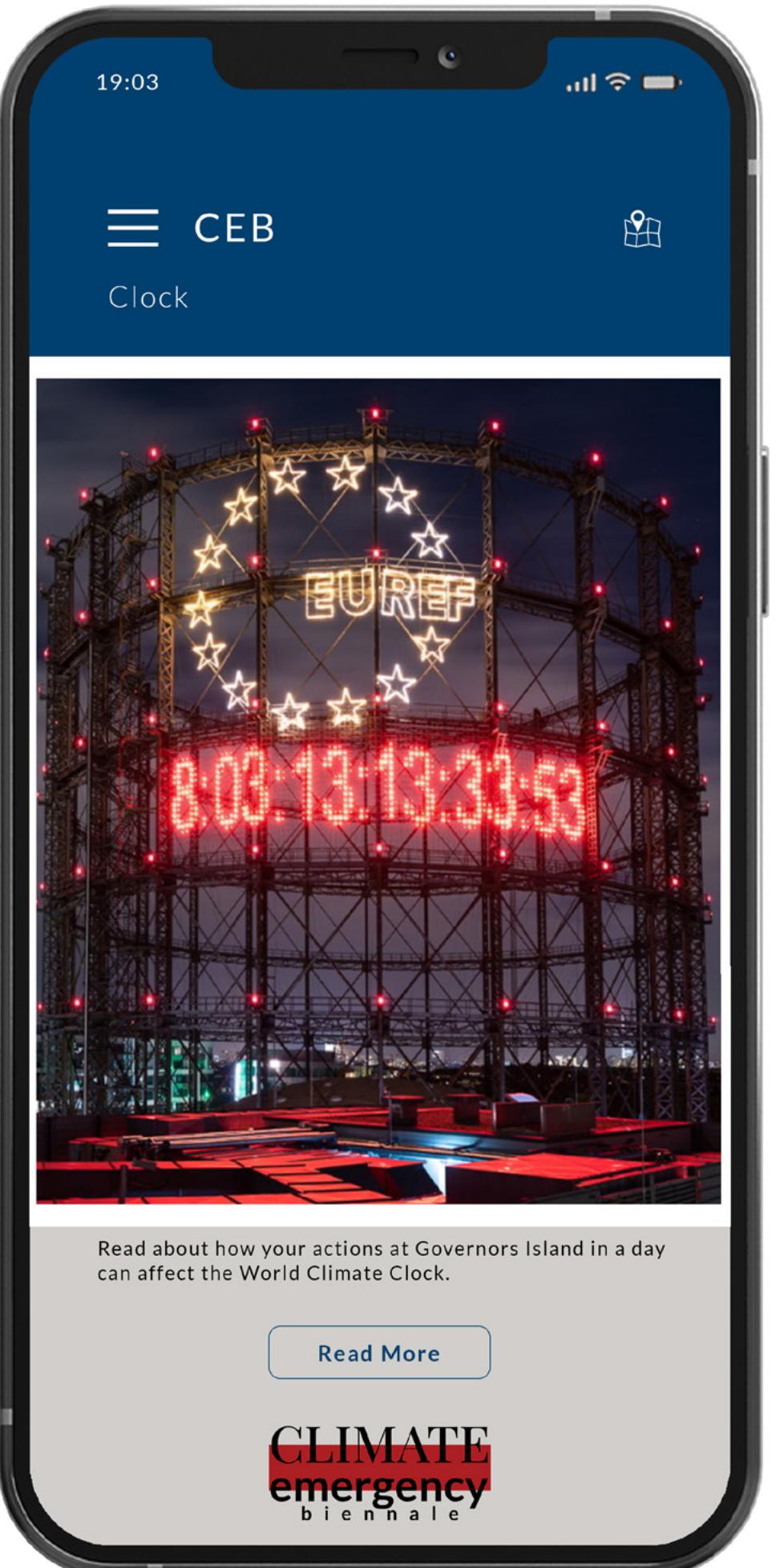
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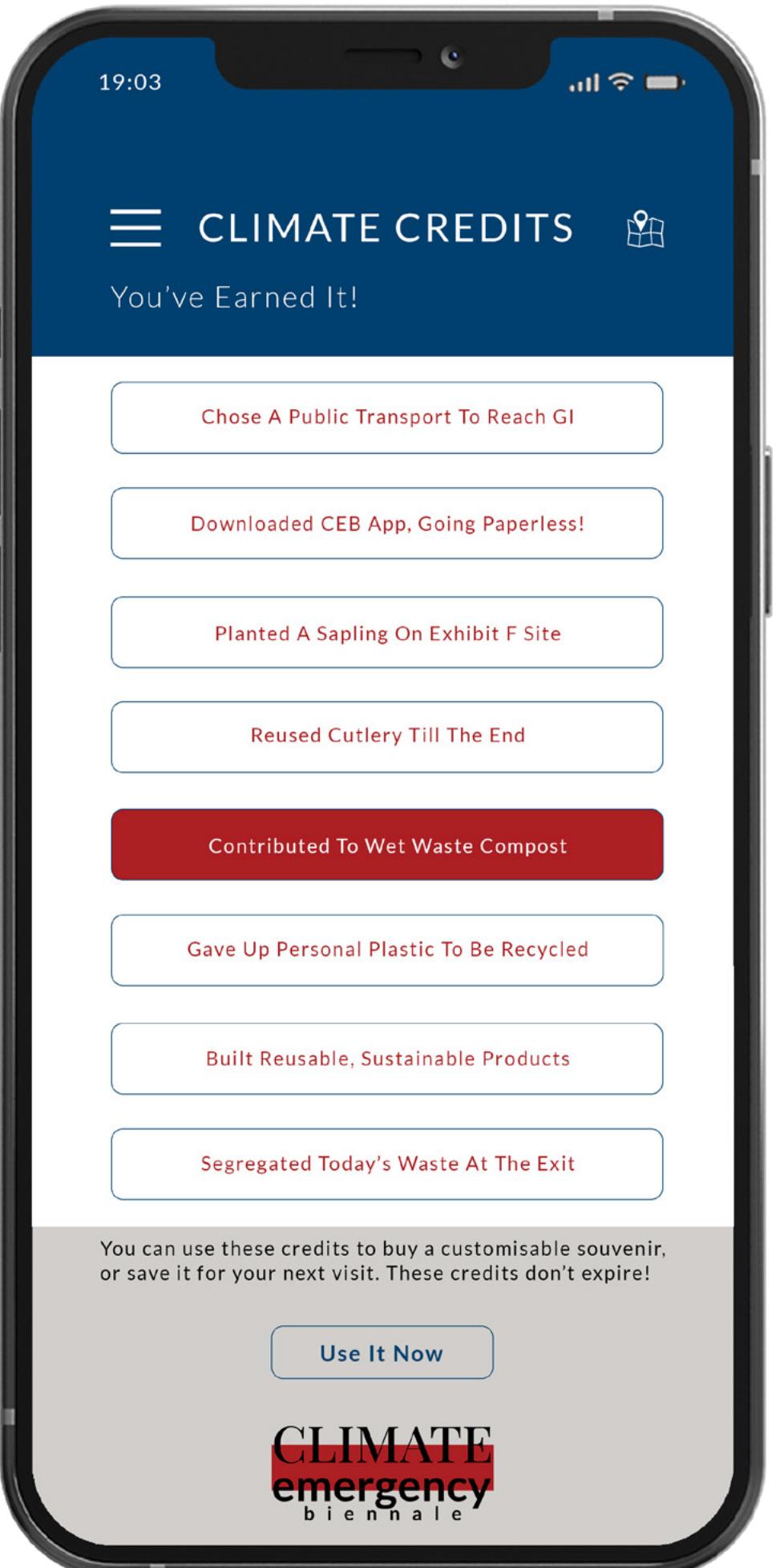
Site map can be quickly accessed from the top right icon. Visitors can filter through pavilions, live events, food booths, public participation areas, restrooms, etc.



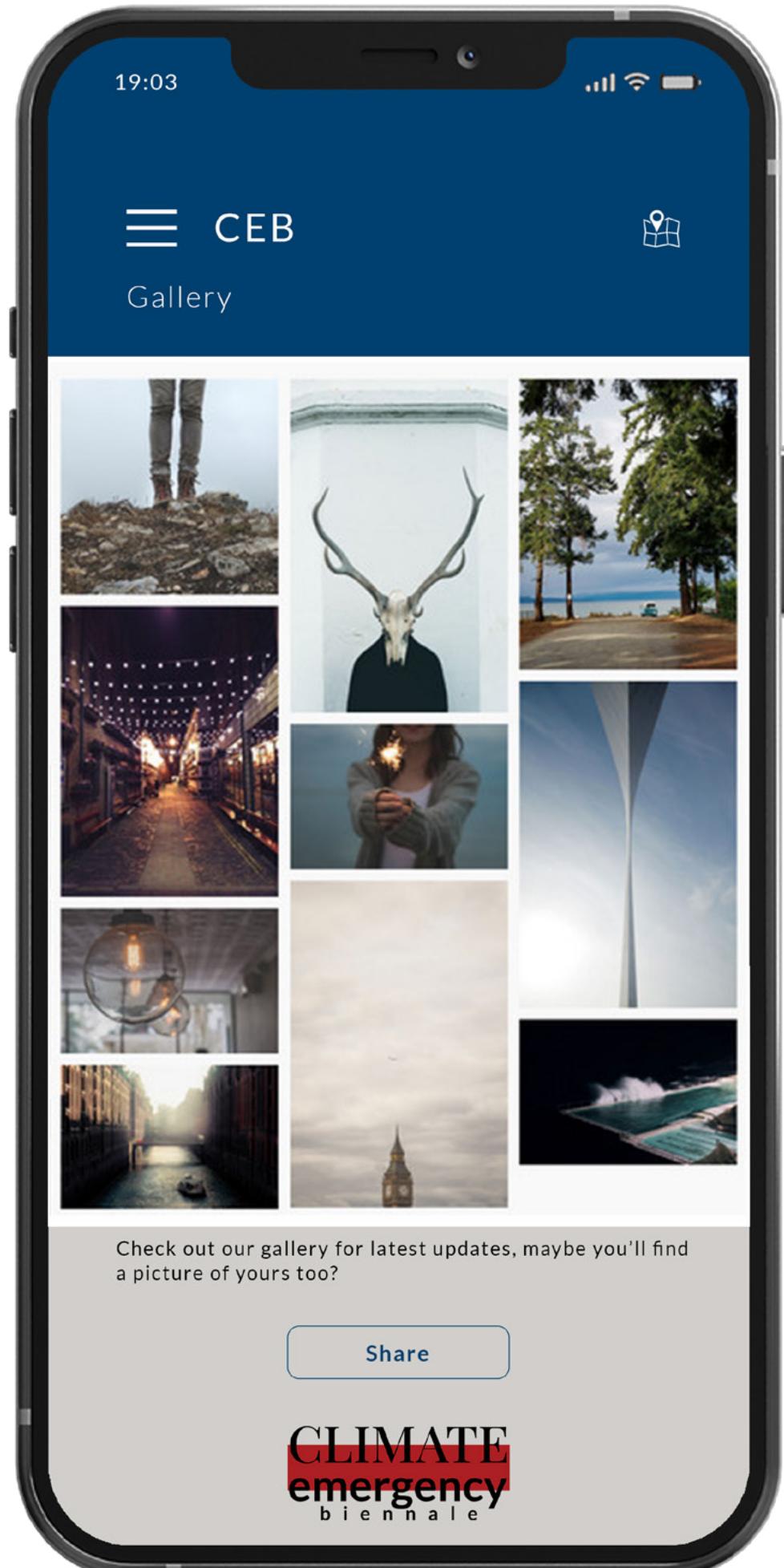
Guests can prioritize their visit to the pavilions based on climate emergency topic, hands-on engagement, use of technology, etc. Pavilions can be sorted on the app.



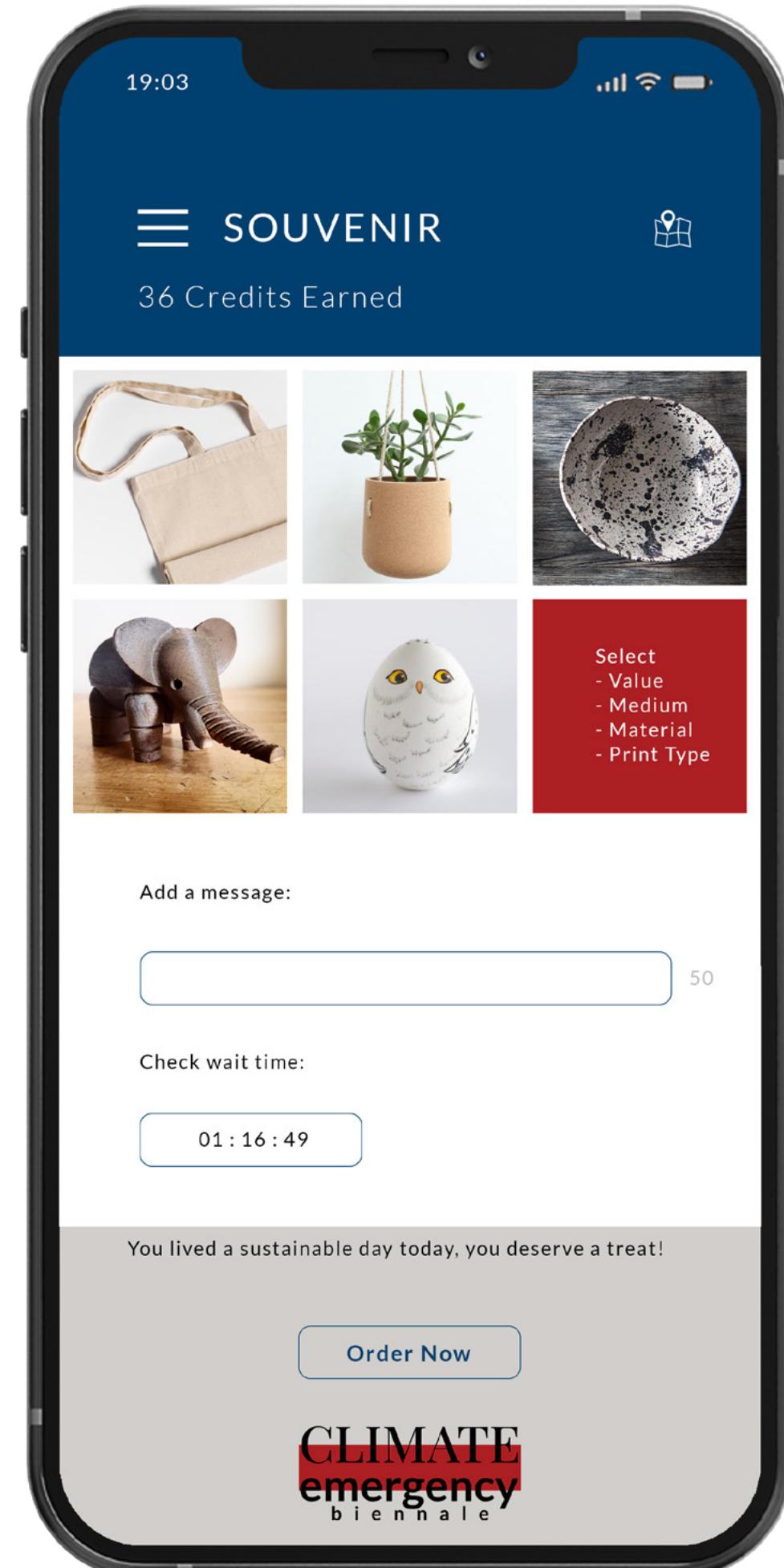
People can learn more about the World Climate Clock, and find ways to contribute in sustainable ways in day-to-day life activities.



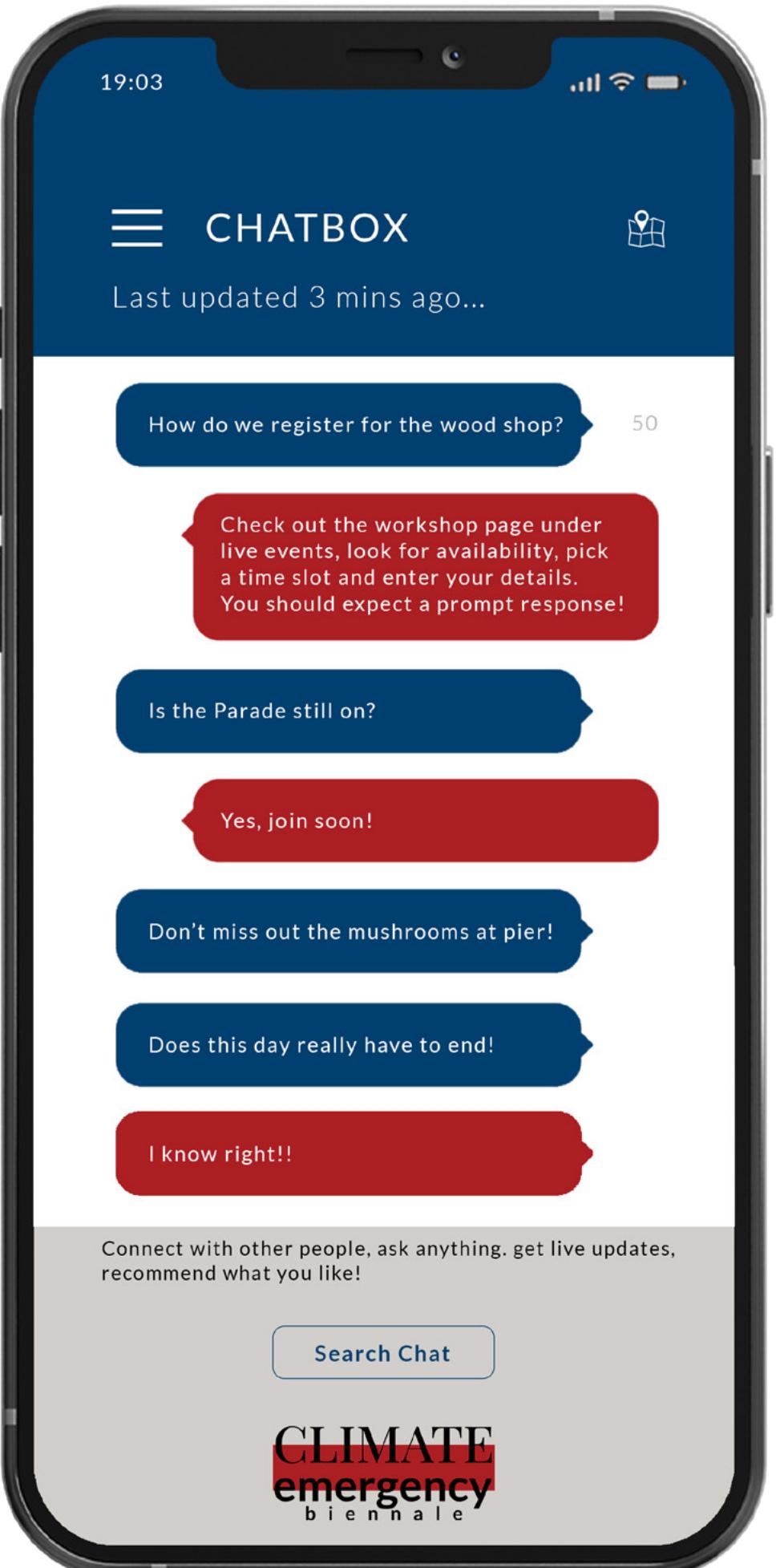
Based on their activity/actions on Governors Island, visitors can earn Climate Credits, which they can use to get themselves a souvenir.



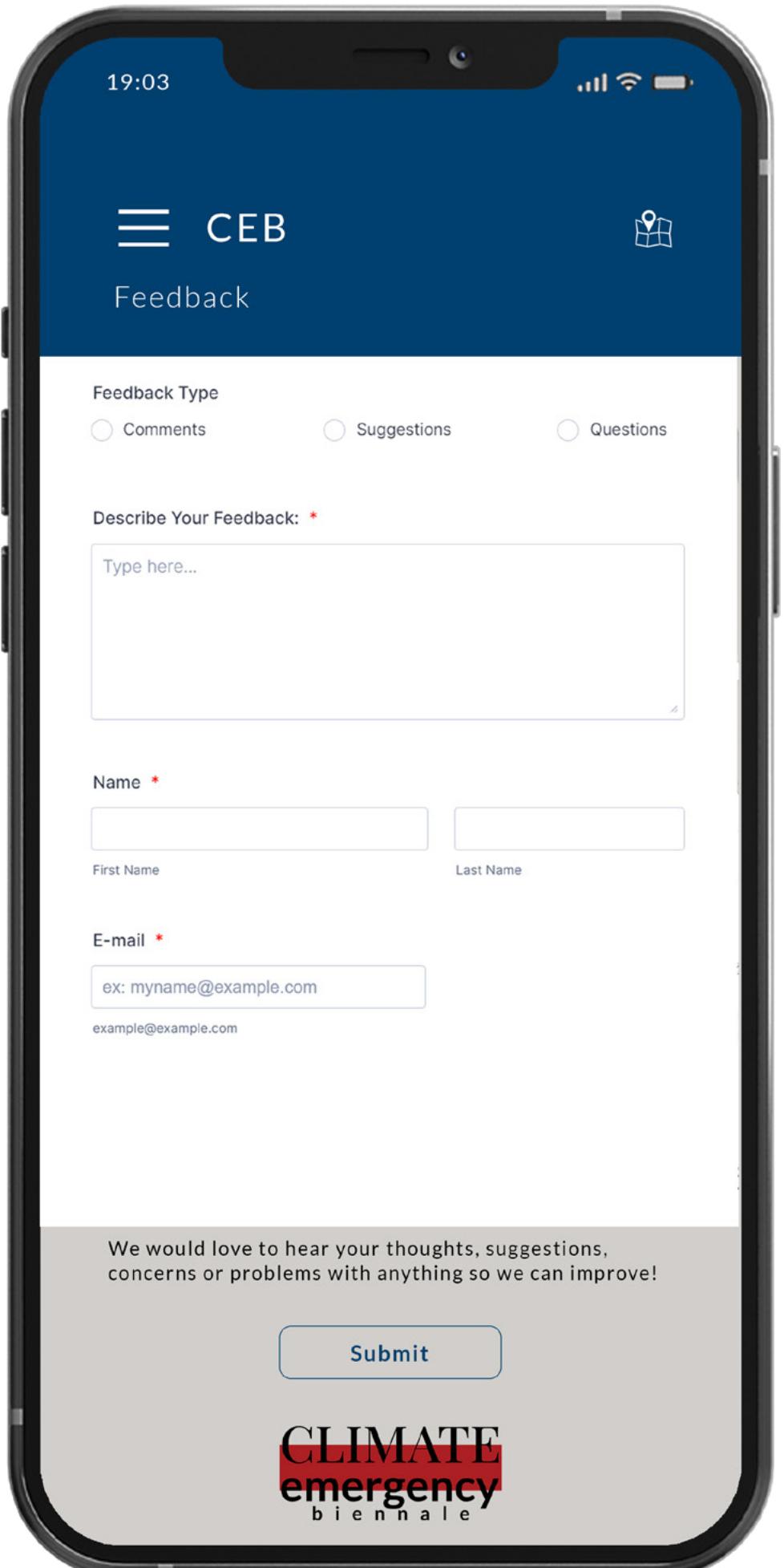
Organisers of the biennale go live on updating the gallery, visitors can find their pictures and share it on social media pages. #ClimateEmergency



Visitors can customize the souvenirs based on the values they want to take back home, pay on the app and collect it at the exit.

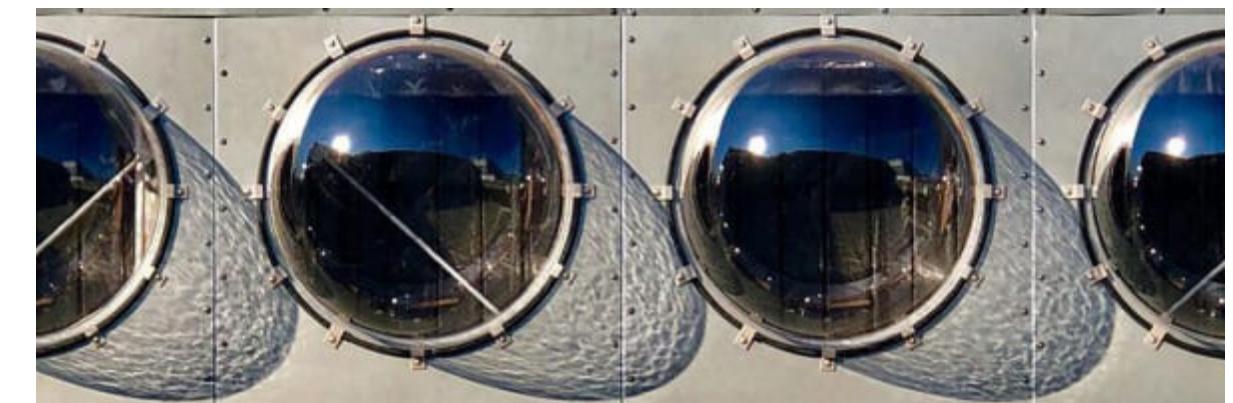


Everybody can use the chatbox to ask questions, or post live updates about the events, even recommend the food they enjoyed!



It's always good to get some feedback in the end.

The concept of 'Human Library' for exhibition to begin a discourse and leave an impact on the visitors.



An incredibly poignant artistic piece by designer Chiu Chih. Forces the viewer to think about tough issues like the environment and our ever changing conditions.

In collaboration with biolab seoul, kuo duo has created a series of masks made from mushroom mycelium, definitely getting some heads turned.

The exhibition proposes to talk about climate change in respect of time-space quality, the possibility of what the future could hold. The idea is to visualise how life can be a few decades ahead when we would have achieved carbon neutrality, and eliminated the constant need for search of climate solutions. The biennale wants the visitors to leave with some sense of hope about an optimistic future but also with awareness of the urgency and burden of individual responsibility.



**CLIMATE
emergency**
biennale

Values Of The Exhibition
To Future It Now





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