Extreme Habitat Challenge 19

SAHARA

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Introduction

Extreme Habitat Challenge 2019 is pleased to invite **architects, designers, engineers, student fraternity, and visualizers** from around the globe to take part in the world's first ever **Sahara Habitat Challenge**. The Extreme Habitat Challenge (EHC) is one of the world's most coveted competitions for habitat design. It recognizes exceptional ideas that redefine habitat design through the implementation of innovative ideas, techniques, construction, visual, programmatic and futuristic organizations through architecture as a tool. EHC embarks itself of technological and engineering innovations which are about to go big, and sets architecture free to innovate more in these uncharted directions. It is a one of its kind platform that promotes the relationship between the habitat + technology + planet.

In its outlook, EHC endorses teams that are multidisciplinary by thought but are aligned to the fact that humans have to grow more, yet responsibly towards the planet. The EHC aims at creating ecosystems that are benchmarks how cities should be in future. With a faster transit and a more connected world the need to stay rooted at one location will go away and futures will be more transit/mobile. However this power should not be exploited at the cost of the planet. The EHC finds it's place in its vision of a more sustainable and responsible future.

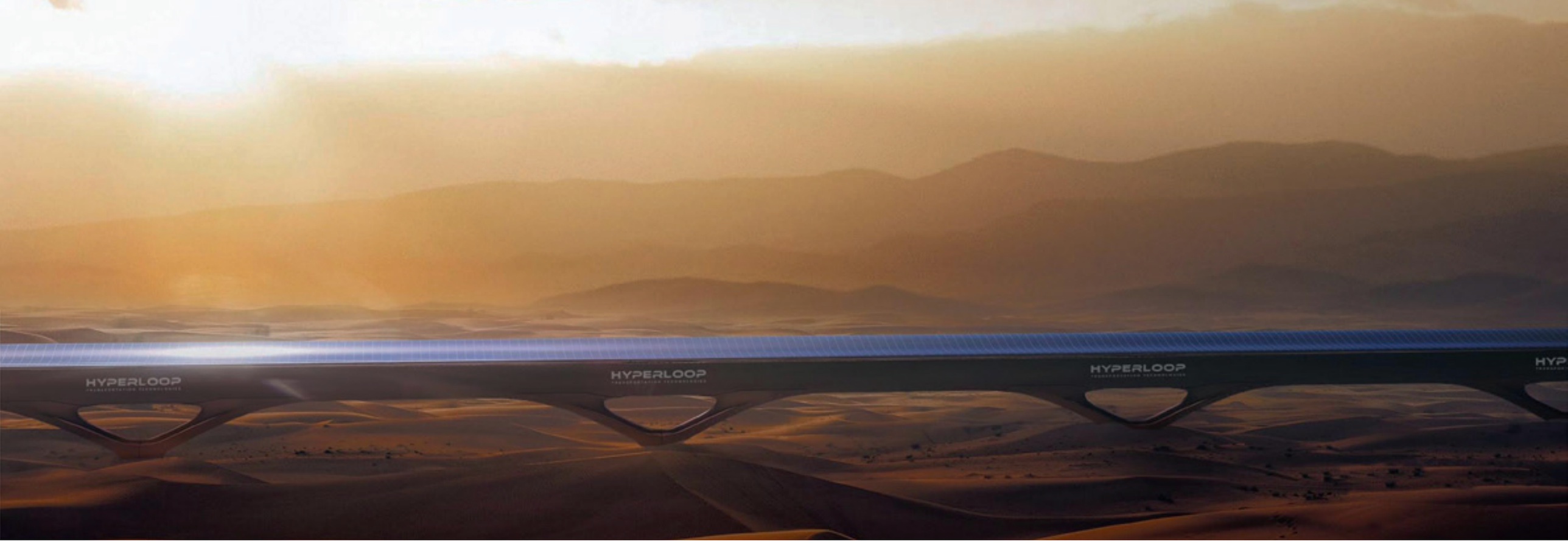
Artwork by: Tyler Thull

Premise

As our cities grow with population rampantly, there are severe impacts visible to the quality of life due to over population - poverty - traffic - pollution and the list goes on forever. There is no population limit on cities as such which makes things even more uncontrollable, as the ‘designed for’ population always exceeds its limit. This eventually contradicts the motive of moving to the city, where people instead of experiencing a better quality of life face the contrary throughout. The capital cities in south asia are at the brim of this issue, but with a non-stop growth of human species, we will eventually see more of these issues and vulnerabilities unavoidably in the long run.

Cities cannot be overhauled overnight. But our cities changed, with the advent of cars/industrial revolution. They changed when we devised a faster mode of construction. They changed when we developed the internet. Technology being the fastest agent of change today, has almost displaced the need of living in a city - including repercussions like social isolation between people of today.

Faster transportation techniques and connectivity + collaboration, has made it possible to look beyond boundaries of cities. We take this opportunity to build a more responsible class of habitats which can be small but can be definitely inspiring for our next change of cities to come. Now is the time to become the citizens of the world.



Visualization by: Hyperloop TT

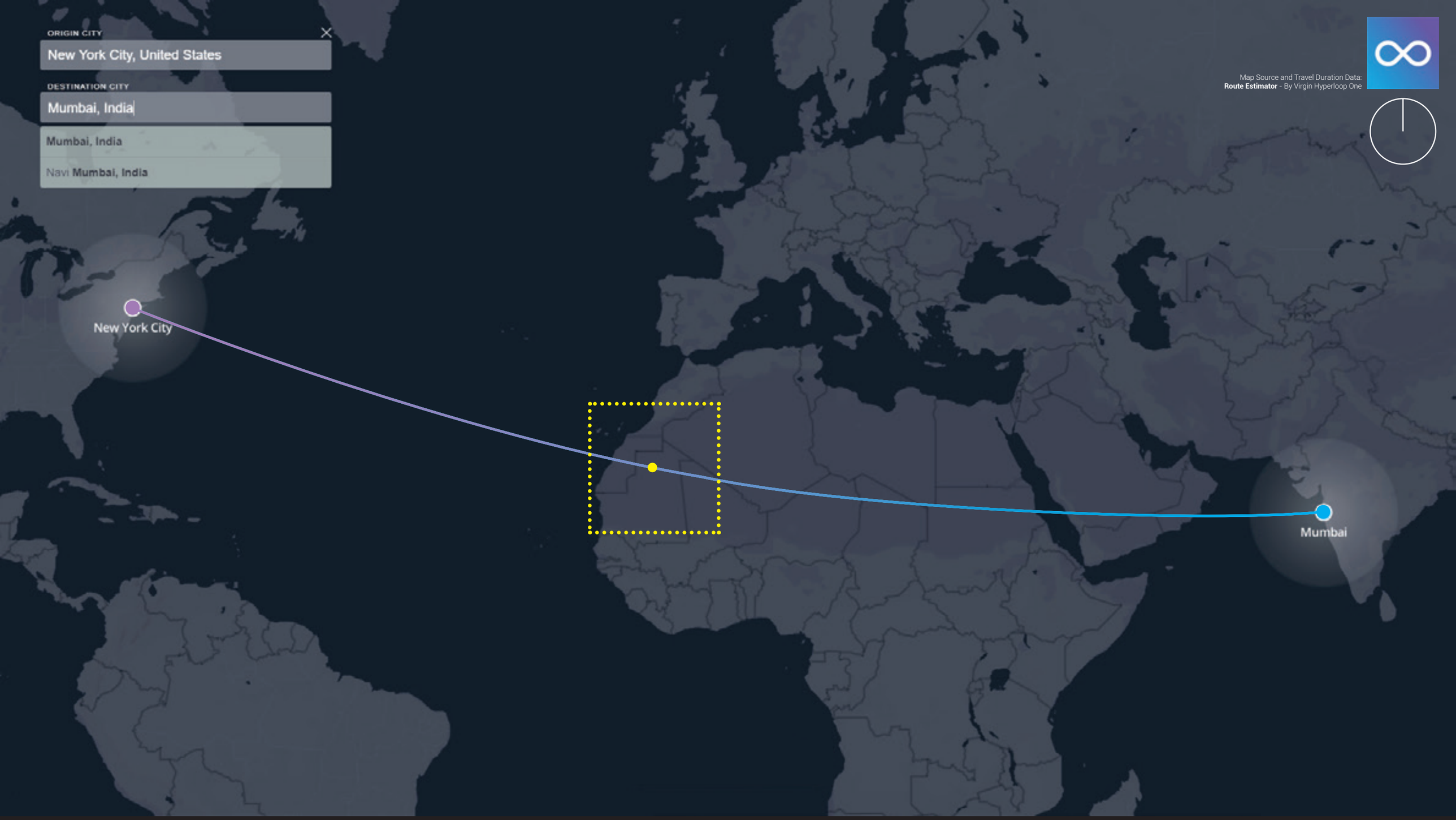
Challenge

Vision: Extreme Habitat Challenge pushes to explore habitat concepts that are responsible, yet brave to grow human civilization in synchronus with nature + technology + planet.

Design a concept habitat of 1,000 people within area of 0.5mi x 0.5mi, which is able to expand itself to 1,000,000 (2.5mi x 2.5mi) as desired by the population moving in to the place. The challenge invites ideas that push the boundaries of design using innovative habitat working models, materials, technology, close to zero land costs, a nomadic yet rooted lifestyle.

This design exercise can be considered similar to colonizing a new earth with technology of today. The first 1,000 people prototype habitat will house all the three elements of human life in it - **Live, Work and Play.**

The first ever Extreme Habitat Challenge competition chooses two major cities (New York, USA x Mumbai, India), connected via the fastest mode of land bound transit (Hyperloop). This site peculiarly with a very less human population density is the test bench for designing a new habitat will inspire how life should be in similar environments while balancing itself harmoniously between forces of nature.



The Route

The route with a distance of over 9,500mi, is claimed by Virgin Hyperloop One to be covered in less than 15hours, with minimal emissions and time savings. Lesser; compared to a standard flights we have today. We choose this route as a test case for Extreme Habitat Challenge 2019, which passes through Sahara as the selected extreme environment.

SAHARA

0 100 200
Miles

Proposed Hyperloop Tunnel Connecting NYC - MUM for EHC[19] - Sahara

50mi limit line

50mi limit line

You can move this auxilliary loop as your preliminary site scouting directs. (Not to scale)

Location: Sahara Desert, Africa
Countries in region: Western Sahara, Mauritania, Mali
Coordinates: 21.128006, -11.398544

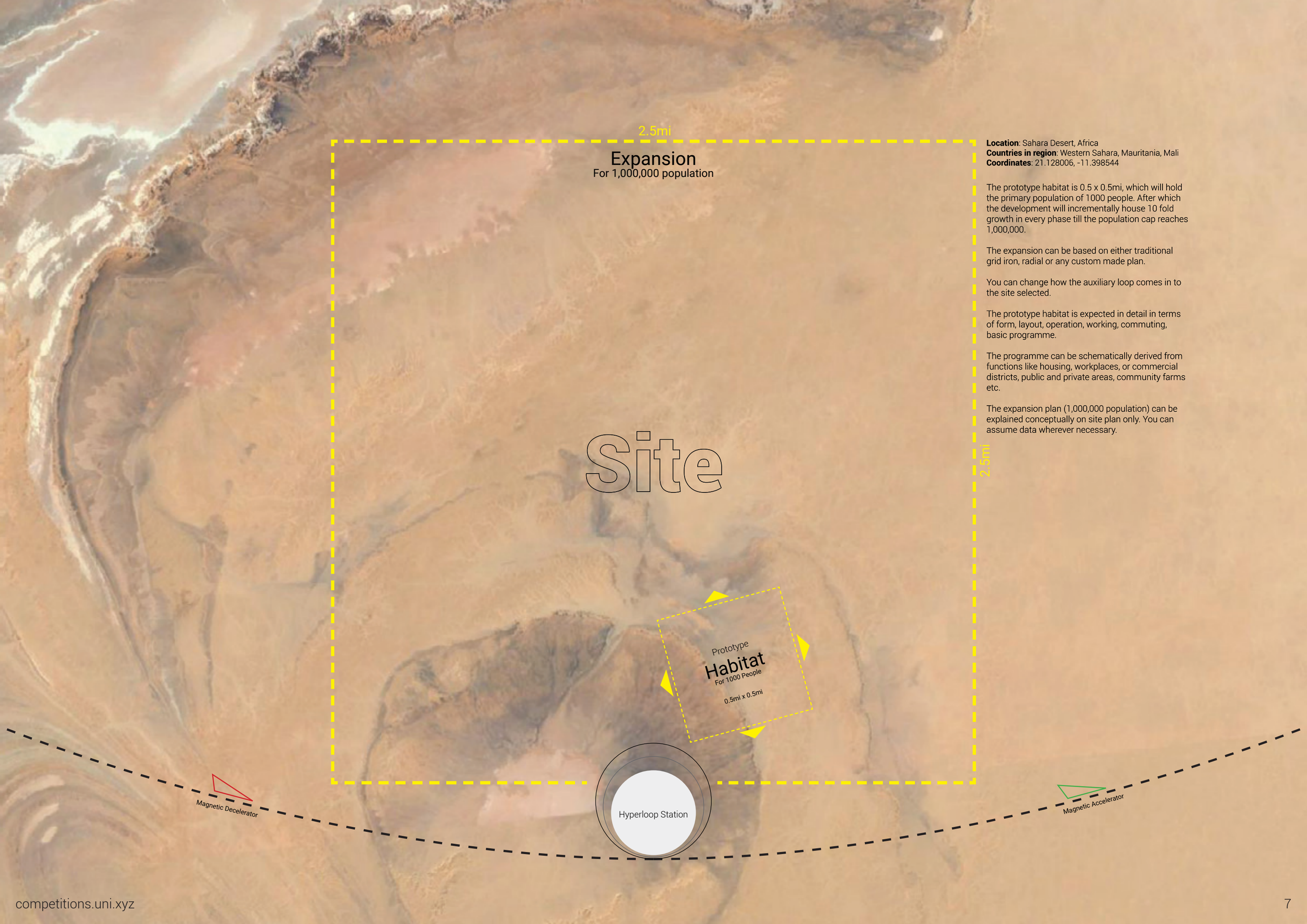
Refer Google Earth Pro for terrain information. Link in FAQ Section.

Place the site boundary inside the white rectangle region and distance limit line on a preferred location or terrain based on your reasoning/choice.The site shown in the map above is an example only.

Marked in blue is the proximity to over the ground hyperloop tunnel passing through here.

Marked loop in grey is the magnetic decelerator/ accelerator for proposed station.

Site
2.5mi x 2.5mi
Not to scale



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The prototype habitat is 0.5 x 0.5mi, which will hold the primary population of 1000 people. After which the development will incrementally house 10 fold growth in every phase till the population cap reaches 1,000,000.

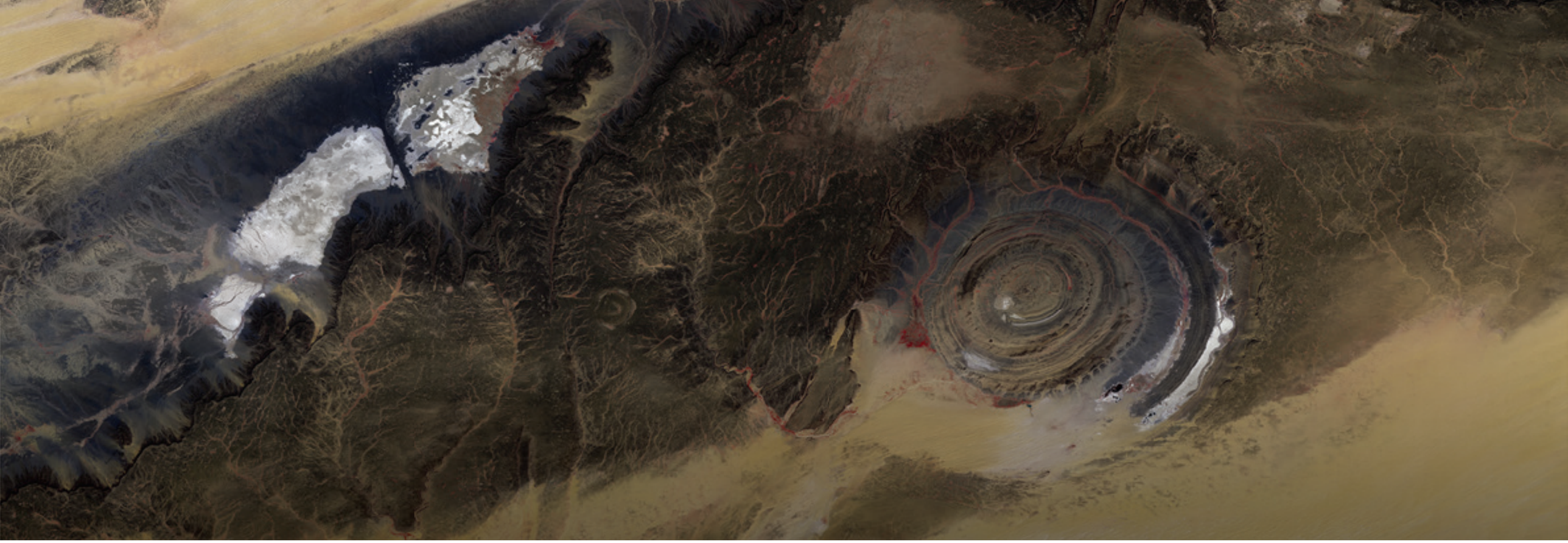
The expansion can be based on either traditional grid iron, radial or any custom made plan.

You can change how the auxiliary loop comes in to the site selected.

The prototype habitat is expected in detail in terms of form, layout, operation, working, commuting, basic programme.

The programme can be schematically derived from functions like housing, workplaces, or commercial districts, public and private areas, community farms etc.

The expansion plan (1,000,000 population) can be explained conceptually on site plan only. You can assume data wherever necessary.



Credits: Richat Structure - Google Earth

Submission

• A maximum 8 nos. – 2880 x 1880 sheet in portrait digital format (JPEG) (120ppi)
• Answer 6 mandatory questions and 2 self formulated questions in the discussion section as given on the next page.

Minimum requisites in the sheets (For a complete submission):
• Conceptual site plan (Compulsory), Prototype Habitat Plan (Compulsory)
• Schematic plans of prototype Habitat
• 3D views x 4 (Prototype Habitat)
• Cover image of size 2000 x 1000 px or larger in aspect ratio 2 : 1.
• Elevations, Diagrams, Concept images, sketches (if any) can be added to support the entry.

+ Use exploded views to discus multi levelled conceptual models better.
+ Ensure that the final sheets which are submitted do not include your name or any other mark of identification. Also mention a small sheet number on corner of every sheet.
+ To learn about the best practices of submission refer to this pdf here. https://goo.gl/fmmcP7
+ Plagiarism of any idea/form/design/image will be disqualified with a notice.

Details

Eligibility:

Participants should be above the age of 18 to participate in this challenge. The competition is open to all disciplines and educational backgrounds. Multi-disciplinary teams are promoted. Competition is open to both students and professionals.

Team:

A team of **maximum of 4 members**. Individual participation is permitted.
In case of 3 students in one team and professional participant with them, the team will be categorized as professional team.
Institutional access entry should be exclusively from a single institute.

Judging Criteria:

Concept/Innovation: How well the idea is conceived and brought to paper. Practicality in hindsight, however innovations expected to soar.
Responsibility: How well it adapts and co-exists with environment around it.
Materials: The set of materials used and how it supports the design intention it embodies.
Presentation/Design: Technical requirements, Clarity in showing ideas, Visualization of the project.

Timeline:

Last Date for Registration: May 09, 2019
Register here: http://ehc19.uni.xyz

Submission Deadline: May 19, 2019
Submission closes for Extreme Habitat Challenge 2019 - Sahara.

Public Voting begins: May 20, 2019
Submitted entries are open for voting.

Public Voting ends: June 20, 2019
Voting ends on this date.

Result Announcement: June 30, 2019
Result day!

Credits: Google Earth

Rewards

1500$
Winner
For Students & Professionals

750$
Runner - Up
For Students & Professionals

500$
People's Choice
Most appreciated - Students

500$
People's Choice
Most appreciated - Professionals

Institutional Excellence Award
Trophy & Certificate | For Each participating Institution & Best Entry Respectively
For Students only

Learn more about this award here:
http://competitions.uni.xyz/institutionaccess.html

200$
Honorable Mention
1. Students

200$
Honorable Mention
2. Students

200$
Honorable Mention
3. Professionals

200$
Honorable Mention
4. Professionals

FAQ

The FAQ will be posted on the competition page and will be updated as relevant queries come in:

Q: Does the design scope includes designing a hyperloop station too? Can we do that on our will?
A: The design problem only includes the habitat design. Even a block massing of hyperloop station will suffice for indication.

Q: Can we choose the site outside the region across the white marked square on page 6 of the brief?
A: No. The site selected has to be inside the white marked region.

Q: I see a few buildings/rail/infrastructure inside the region. Can we take advantage of these?
A: No. Kindly consider this site as uncolonized and to be habitated with today's technology.

Q: What is the population I should design this habitat for?
A: Habitat module should only be for a population for 1000. The next goal should be scalably increase (1,000 > 10,000 > 100,000 > 1,000,000) the same/similar module to a population cap of 1,000,000.

Q: What kind of ideas required for this challenge?
A: This is an open ideas design challenge. Instead of too practical, the challenge invites logical solutions which make use of technological resources of today + tomorrow and innovate freely beyond limiting factors.

Q: Can I make use of speculative technologies (3D printing, Dropship Supply, Robotic construction, etc.) in my proposal?
A: Yes. You can.

Q: How do I gather terrain data of my site selected + geographic/climatic details of Sahara without going there?
A: There are several online repositories which share climatic data of specific regions around the world, like these: https://www.gaisma.com/en/dir/mr-country.html (One of the key countries in the region is Mauritania). The terrain data can be easily extracted via google earth pro (https://www.google.com/earth/download/gep/agree.html) using the following guide: https://support.google.com/earth/answer/148134?hl=en.

Q: Do I need to learn about the functionality of Hyperloop to participate in this competition?
A: A basic research will definitely help. However the habitat is the primary focus of this competition instead of mediums to get to the habitat.

Q: Can submit a previously made habitat project for this competition?
A: You can. Until the competition conditions are met, you can submit the project.

Q: What are the byelaws for the site?
A: There are no byelaws but they will be framed by climate and your planning for the site. This does not mean that you have to propose regulations, but this will reflect in the future expansion plans (if any) are there.

http://**competitions**.uni.xyz

Extreme Habitat Challenge '19

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