

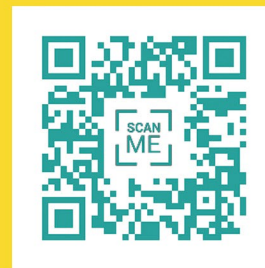


THE

SEAS

ARABIAN SEA - CONTINENTAL CRUISE STOP

1ST COA - SVIT Thesis



Arabian Sea -
CONTINENTAL CRUISE STOP

1ST COA - SVIT Thesis

Must Watch
Walk-Through
Feel the vibe.

Arabian Sea - CONTINENTAL CRUISE STOP
GUIDE: Dr. Ar. Prof. Ashwin .P. Mukul Sir
Hypothetical - Research based Thesis

THESES



CONTINENTAL CRUISE STOP

Hypothetical - Research based. THESIS 5THYEAR, 9THSEM

THE TASK

It begins with a problem, and ends at finding a solution to that problem. This is not an easy task. With a series of research works and evaluations, need to come up with enough proof that the solution is right.

STRUCTURE OVERVIEW

Its a stop to replenish fuel, fresh water & waste disposal as needed for the travel. Backbone to start & revolutionize oceanline travels, as airports do for mid-stop flights.

YEAR: WINTER 2019

PLACE: ARABIAN SEA

PROJECT STATEMENT

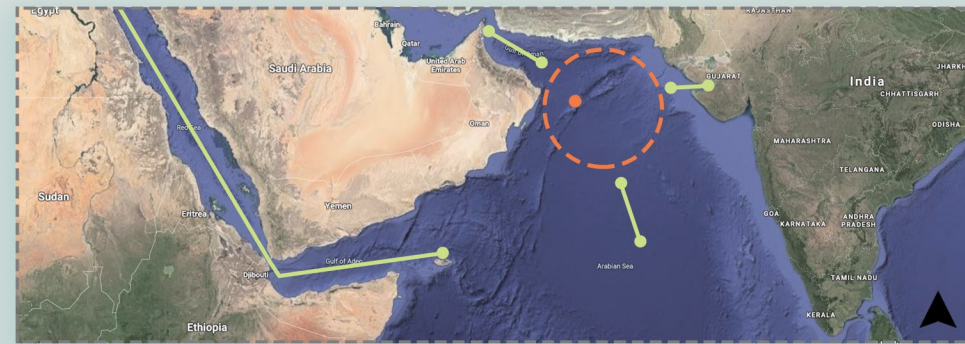
BUILT UP AREA: 142000 m², 35 acre

KEYWORDS: Stop, Modular, Attraction, Sustainable, Huge Environmental impact.

CITATION: GOLD MEDAL THESIS

College Of Architecture - SVIT VASAD
Gujarat University

End Year Exhibition.



PROCESS: For the project, I set my mind on a certain topic or problem, the next step was to find out its physical applications. Thesis, after all, does not just involve research. Most of the time, the topic or problem chosen must be translated into a structure or a set of guidelines. Guides were assigned to us based on our topic and their expertise.

GUIDE: Dr. Ar. Prof. Ashwin .P. Mukul Sir



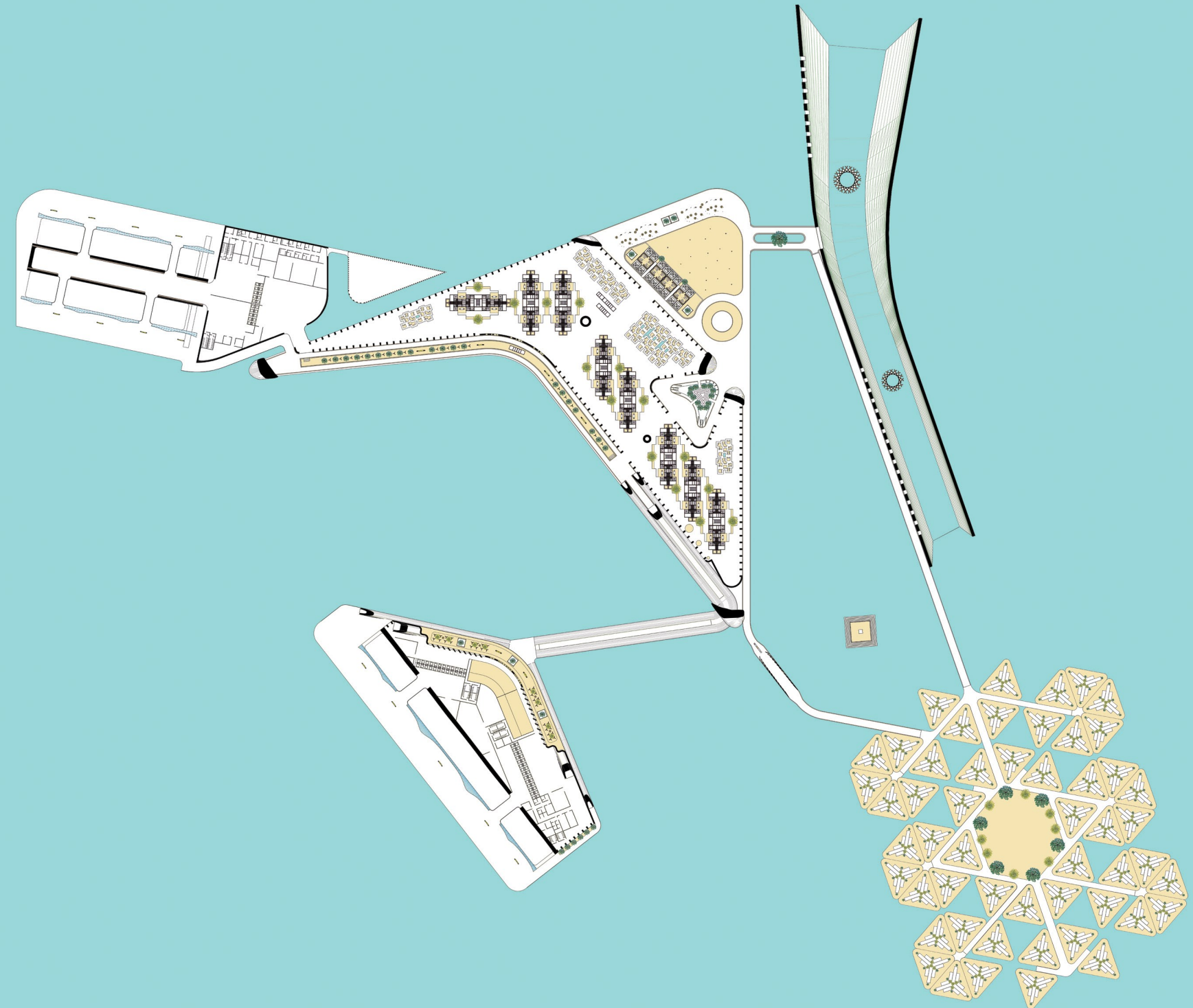
SUSTAINABLE



ENERGY
EFFICIENT



BUILDING
PERFORMANCE





CONSEQUENCES

- * No scope for trapping it into clouds and fall in form of precipitation.
- * No scope for purification as no tree or machines can reach stratosphere.
- * Pollution directly goes into ozone layer destroying it at an alarming rate.
- * If u want to purify it, can take a month just to clean one day of pollution.
- * No chance of leaving the pollution into space because of gravity.
- * Now u cannot see the stars clearly in the sky at night except for some places..

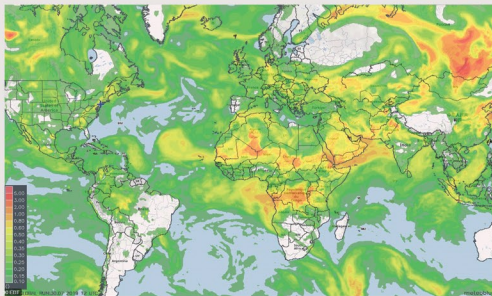
INTERNATIONAL FLIGHTS

Live Tracking ATC Data

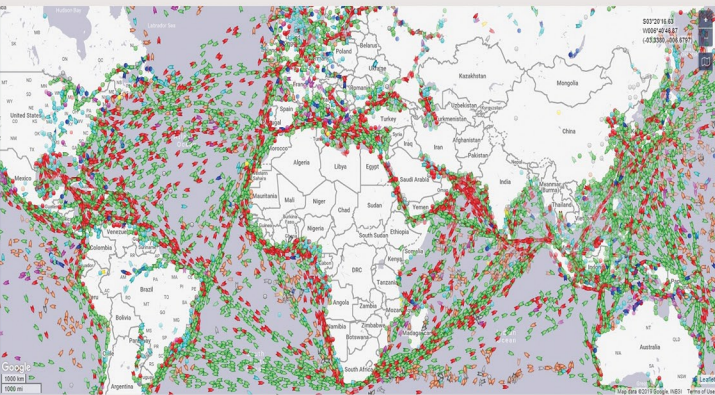
1. Flying international flights = 102500 per day
2. Excluding private jets, air force, landed flights.
3. Average fuel consumption per flight = 450000 L
4. Flying altitude = 25000 to 40000 ft
5. Cloud cover stops at = 25000 to 27000 ft
6. Risks of accidents due to failure, weather & errors.

STATISTICS

Total airports: 43983
(2010 CIA World Fact Book)
If you wish to include operational airports that have some navigation and airport control where you can fly to as a paying passenger would be approaching 200,000.



Aerosol optical depth : Polluted clouds
(Near extinction of solar beam)



CONTINENTAL CRUISE STOPS Why needed?

1. To establish continental commuting in water ways.
2. To give a second option to people, majorly tourists. (Cheaper than air)
3. Average fuel consumption per cruise = Nuclear in future (Min air pollution).
4. To establish a whole industry (multi trillion dollar) out of it.
5. To establish circuits of island tourism and transportation.
6. To give a stop for ships to berth for reloading their resources for the journey.

POSITIVE IMPACT

- * Saving environment on a large scale.
- * Minimal Pollutants.
- * Possibility of relaxing break journeys.
- * Can carry 3000 – 6000 people which is 10 – 20 times greater than a flight.
- * Many employment opportunities.
- * Can reduce major ozone depletion.

INTERNATIONAL SHIPS

Live Tracking GPS Data

1. Sailing international ships = 50732 per day
2. Excluding fishing boats, private crafts, Tugs.
3. Average fuel consumption / day = 175000 L.

- Cargo ships
- Oil tankers
- Cruise
- Fishing



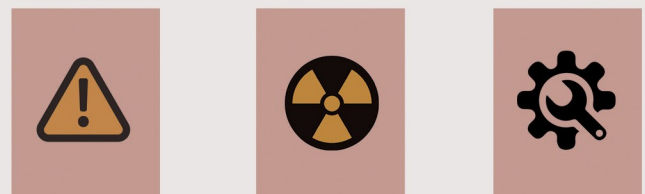
Sulphur dioxide gas : Toxic clouds
(Major Hazard)

Harm to environment



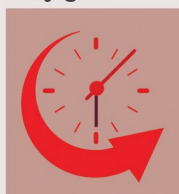
Pollution which is irreversible
Ozone depletion which is irreversible
Major resource depletion on large scale
No Scope for purification at stratosphere
High amount of toxic clouds

Harms to life



More risks of accident
Jet-lag we call is radio-activity. μSv absorbed
Unimaginable cost of maintaining this assets

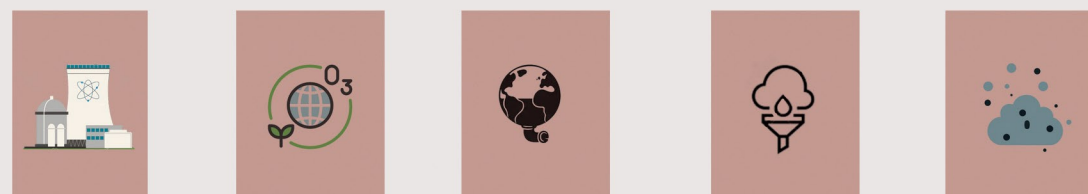
Only gain



Saves time. But at what cost? Damaging own place to live

AIR WAYS

Cruise can be nuclear and can be managed
Can reduce ozone depletion
Resource deplete but new ways can be used to reduce
Waste done can be manage in many ways
Chance of pollution get into clouds trap

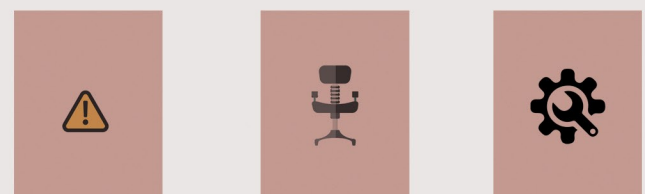


Benefit to environment

You Choose

WATER WAYS

Low risks of accident and is survivable
Comfortable journey with ammeneties
Imaginable cost of maintaining this assets
Takes time. Without Damaging own place to live. Primitive Idea



Benefits to life

Only loss



SPOT IDENTIFICATION

As cruise can travel 2000 Km at 55 km/hr in 1.5 days. Many of them have capacity of carrying more fuel upto 7 days. But many of the other needs has to fulfilled in order to travel comfortably like waste manage, water, food, sea sick, etc.

Average possible distance for a cruise to go without docking with all the needs fulfilled with full comfort is about 2500 - 3500 km which is approx 2 - 2.5 days. So a stop has to be located with in this range. Fortunately there are some archipelagoes which range within this criteria which can act as secondary support systems in case of freights and can be used as a management base. The location of the stop will be 22 km in the sea from the island shore. As it will come in the international waters. There for no one has jurisdiction over it. This route can significantly lower time by 65 - 75% of the base value consideration nowadays.

Cocos island = 2000 km from Australia = stop. BIOT island = 2800 km from Cocos = stop. Gulf of Oman = 3200 km from BIOT = stop.

AREA JUSTIFICATION

Area taken for consideration : ARABIAN SEA

Arabing sea can be the major spot for stop as it connects the fourth continent which is Europe to this 3 continents via Suez Canal.

This stop here can act independently without completion of chain, which gives us the data about viability of stops in future intended areas.



THEN

Previous route for only tourism taking upto 71 days to reach London from sydney having 26 stops on shore. Itinerary. (Big cruises)

IF

New route for tourism as well as transportation. Taking upto 12 days to reach london from sydney having 3 stops in between. Taken from above given data. (Big cruises and small & medium sized crafts)



PROJECT MANAGEMENT

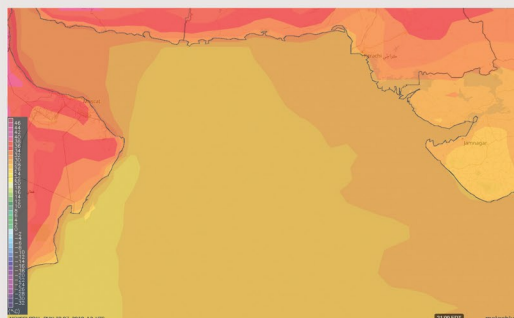
This project can be taken by multiple private companies or can be a joint operation with countries who are willing to join. Many small countries can be the support systems for stops. Specially the islands near which this stops will be located. Maximum depth for pylon this stop allowed is 1000m for safety reasons.

Impact on International air travel?

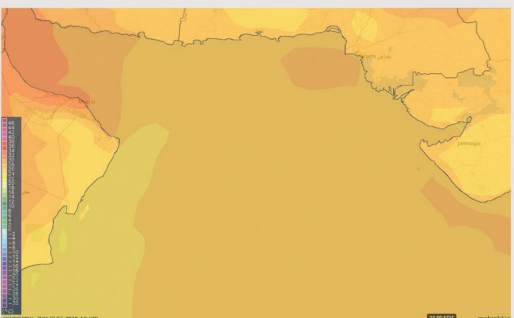
Huge losses and drawbacks to air travel as it will be crippled because there are 55 – 60% people who are tourists, one way travellers and migrating students.

Impact on Domestic air travel?

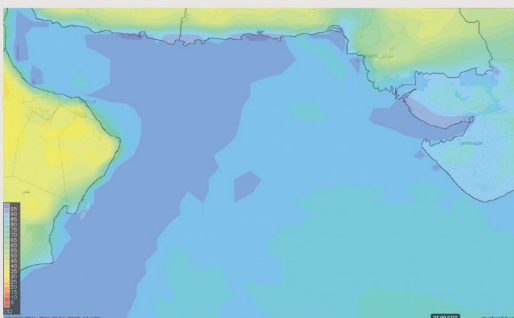
Profits can be earned as it is a need to reach the nearest shore.



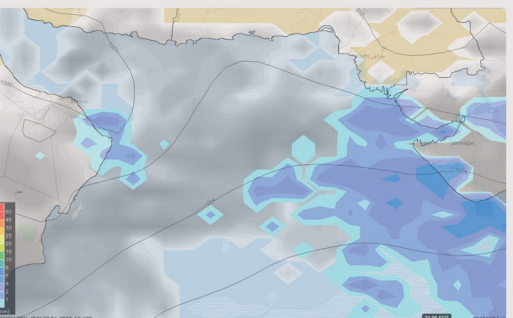
Maximum Temperature : 28° C



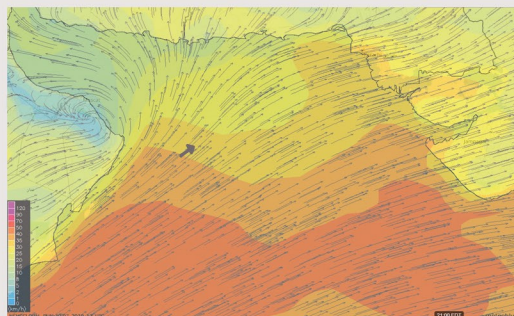
Minimum Temperature : 24° C



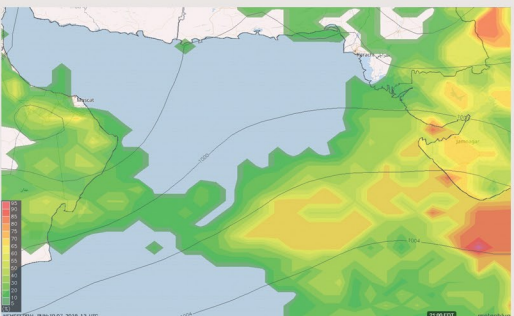
Humidity : 75 - 95 %



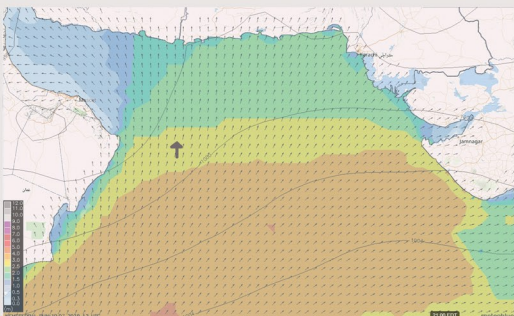
Cloud Cover



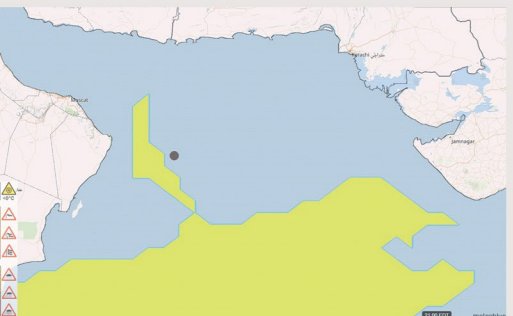
Wind Drafts : S-W, 20-25 km/hr



Precipitation Probability : 30 - 60 %



Wave Direction : South, South - West



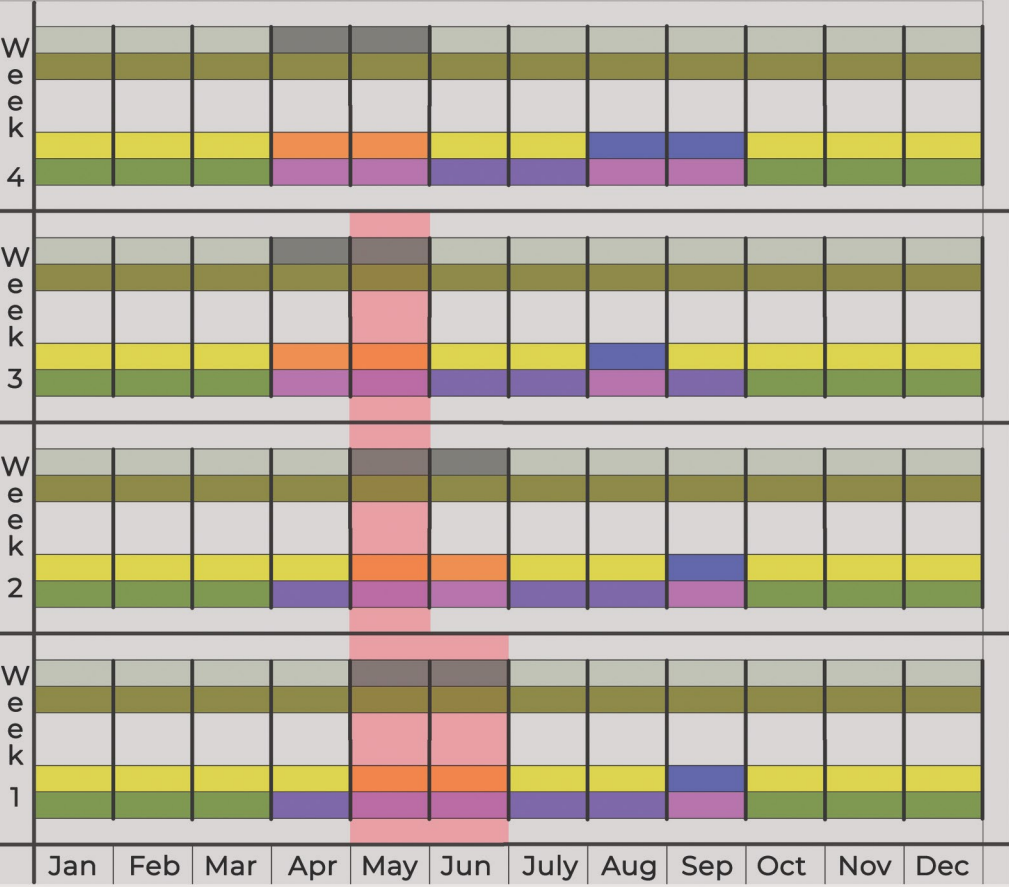
Risk Factor

QUORA: BLOG
How long can a cruise ship sail without docking at any port?
Casey Hare, works on cruise ships in Human Resources.

Answered Nov 5 2015 · Author has 70 answers and 154.5k answer views
The longest that modern cruise ships normally sail without docking is about 7-10 days' maximum, Going longer than that is theoretically possible if you only take into account fuel, but the biggest thing that requires cruise ships to dock is food and drink for the guests and crew on board.

1. When you have cruises longer than 7 days, there are often challenges with storing enough food and drink to last the entire cruise; crew corridors are actually packed with dry goods and other foods that don't require refrigeration.
2. Fresh water is also a consideration. Because the only other way to get fresh water is to make it using the engines on board; this is fuel-intensive and costs more than filling up in port. What this also means is that the longer you are at sea, the more fuel you will expend.
3. It is very rare for a cruise ship to run out of fuel due to these other factors (food, water). Replenishment of food or fuel at sea without stop, while theoretically possible, is an extremely dangerous and sensitive manoeuvre.

Now, to be technical, if a cruise ship decided not to dock but to anchor near the dock, it would be possible for fuel and water barges to park next to it to replenish, but again, without a solid dock it can be dangerous, and to ensure the safety of the ship and its thousands of guests, cruise lines would consider this an extreme last resort. Cruise ships are not designed to be able to handle this effectively.



FUEL CALCULATIONS
Fuel needed in cruise for 4 days of travel =
Terminal 1 (Oceanliner) : 1148075 L
Terminal 2 (Avg-cruise) : 688845 L
Terminal 3 (Avg-cruise) : 688845 L

Tank Capacity needed for a week in stop =
Termianl 1 : 24109575 L i.e. 21 Oceanliner / Week
Terminal 2 : 19287660 L i.e. 28 Avg-cruise / Week
Terminal 3 : 19287660 L i.e. 28 Avg-cruise / Week

REQUIREMENT
Overall : 65 Million L / Week

FULFILLMENT
* Exxon Valdez can carry 235 Million L of Fuel.
(Oil carrying container Ship)
* Stop can sustain on 1 Oil container for 1 Month.

COMPARISON
Heathrow Airport : Passengers = 1.3 Million Pax
Fuel = 3185 Million L / Week

62° E, 22° N : Passengers = 0.3 Million Pax
Cruise Stop Fuel = 65 Million L / Week

YEARLY CLIMATE CHART DETAILED ANALYSIS

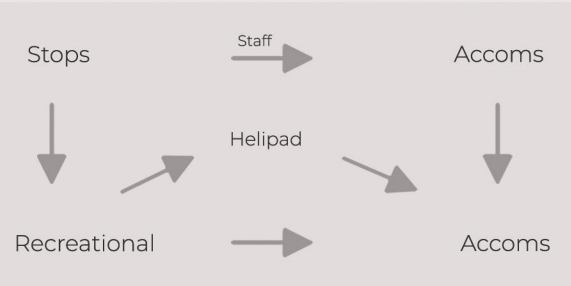
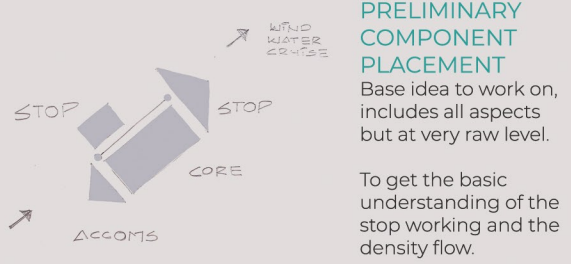
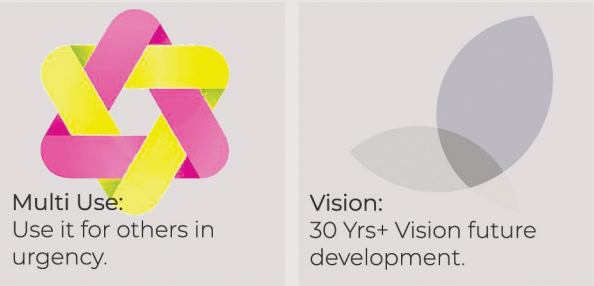


CALCULATIONS
Oceanliner: 4500 passengers
Cruise 1 : 3500 passengers
Cruise 2 : 3000 passengers
Stop Staff : 1000 people
(2 shifts).

Total : 12000 Pax
Full Capacity

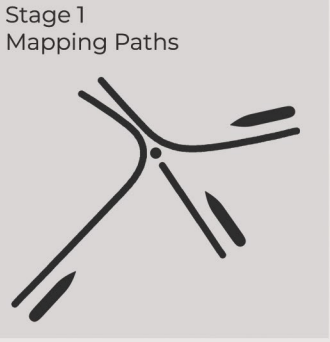
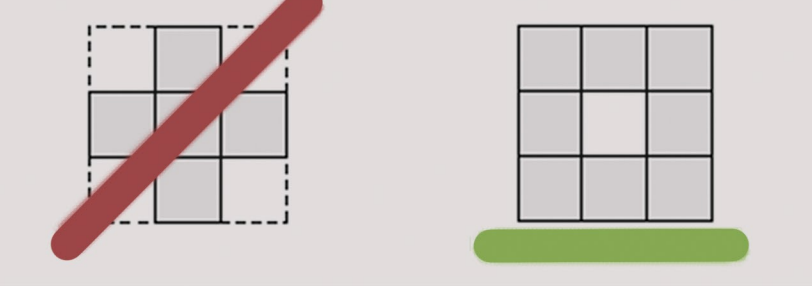
ABOUT STOP & ITS PERIODS
This stop works as a connecting link between Asia, Australia, South Africa & Indirect access to Europe via Suez Canal.

This stop preliminary can berth 1 Oceanliner & 2 medium Cruises. Accomodating their crew as well as passengers & the staff that works at the stop. This density is going to be stable for 5 - 6 Hrs. There will be total 3 oceanliners & 8 cruises that will berth through-out the day.

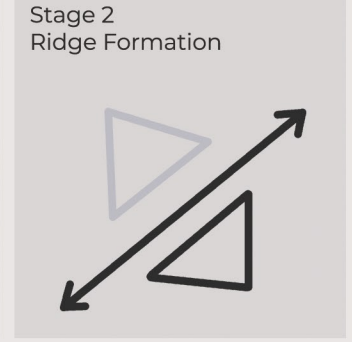


PHILOSOPHY
Module
It is a practical approach towards design. It will help in the construction as well as in protection.

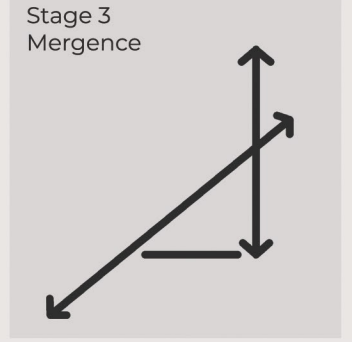
ARCHITECTURAL STYLE
As Module supports modern & Ocean signifies dynamics.



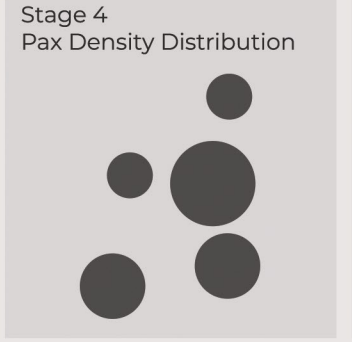
Most frequent cruise paths are mapped out to locate the stop placements to ease the berthing.



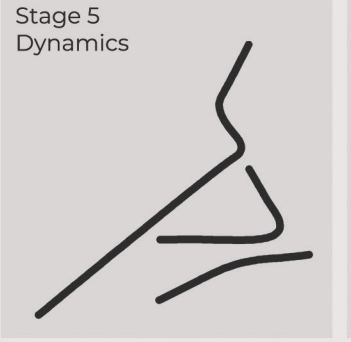
Ridge axis is considered as the main axis as it is same for streams. To replicate the module opposite to each other in future.



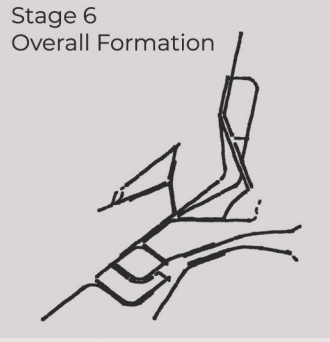
Ridge axis and Wave direction are combine together to get an idea of the formation as this plays an imp part in sub-surface hydrology.



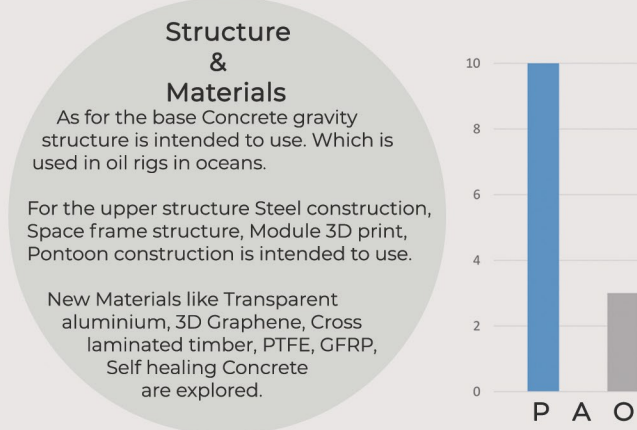
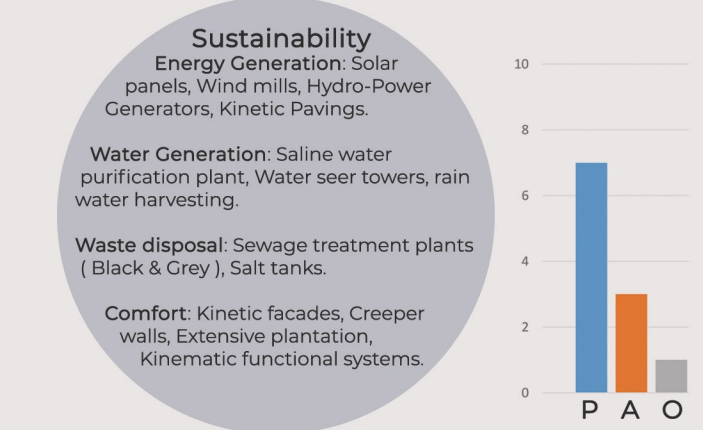
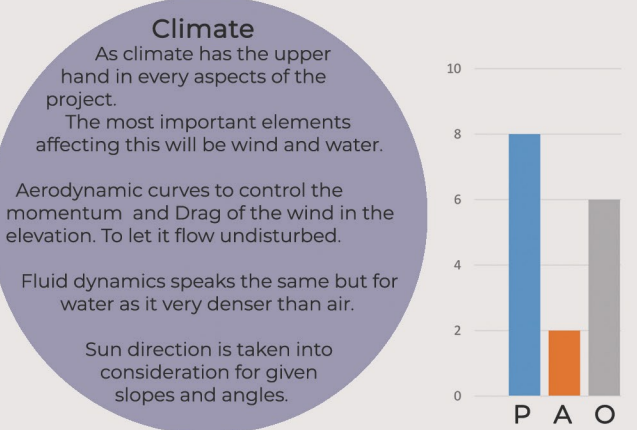
Most dense areas should be placed strategically in the middle so as to minimize the damage if occurred.

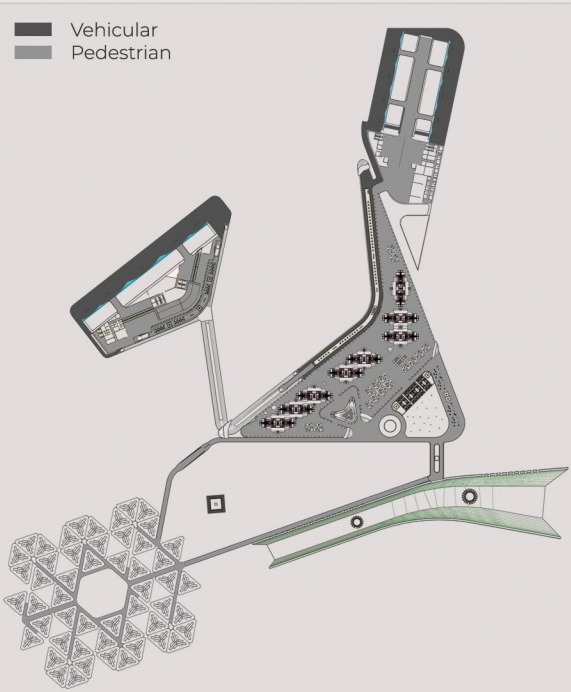


Curves are given to give them the dynamic shape that represents the shores. Primarily Triangles were formed as a result of combination.

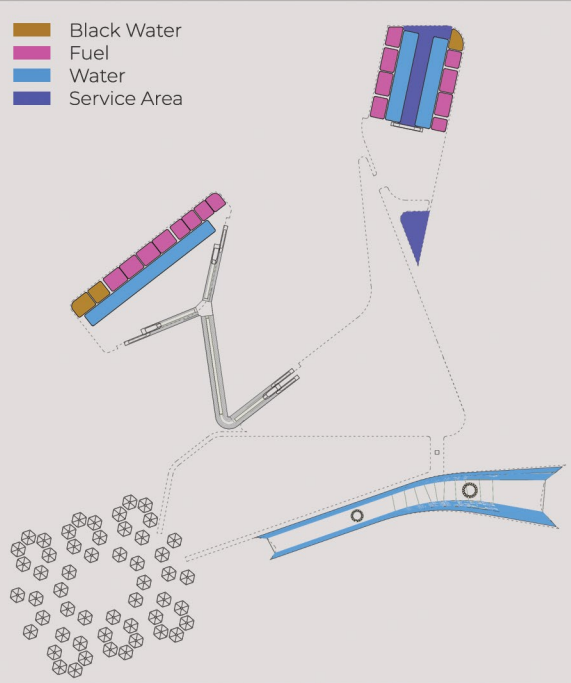


After giving thought to overall formation. This was finalised as it follows the parameters set for the stop.

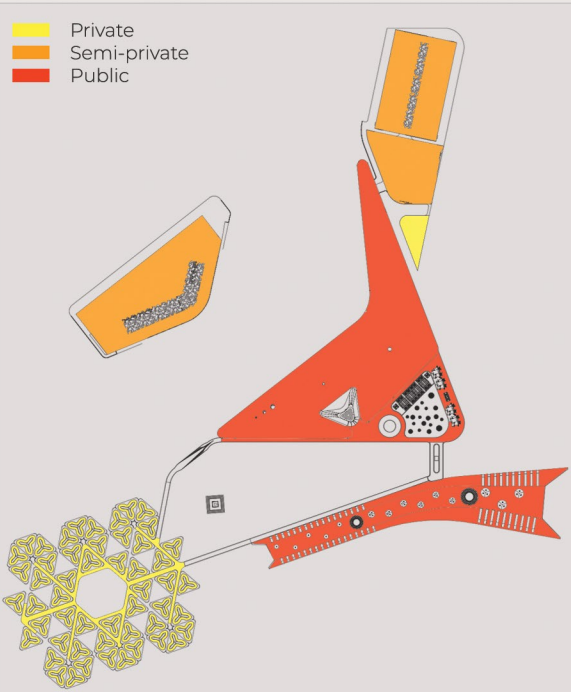




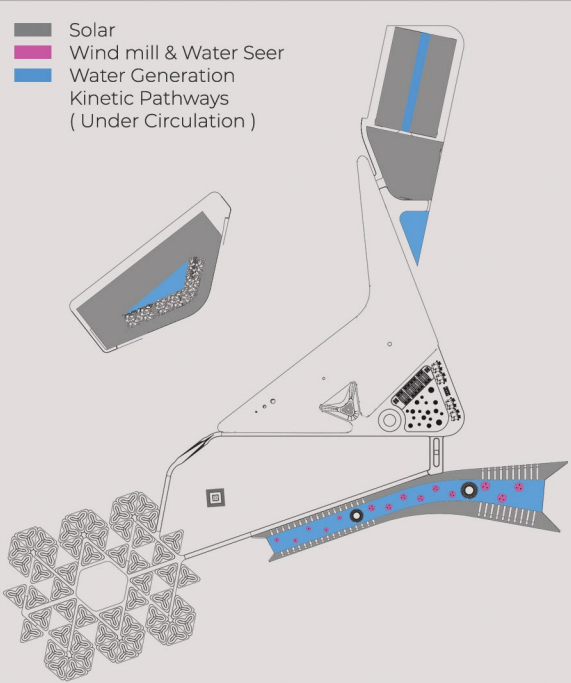
Circulation



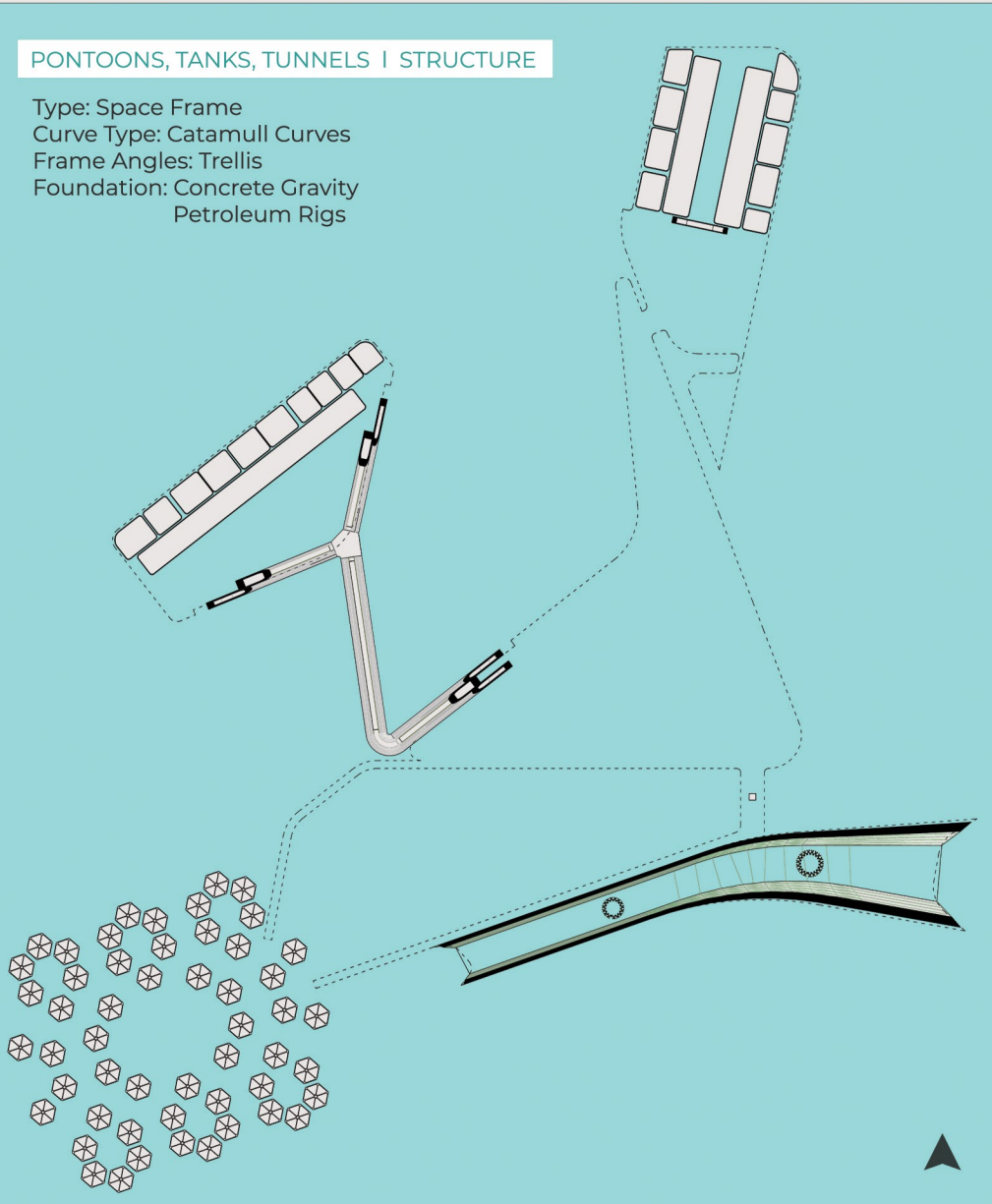
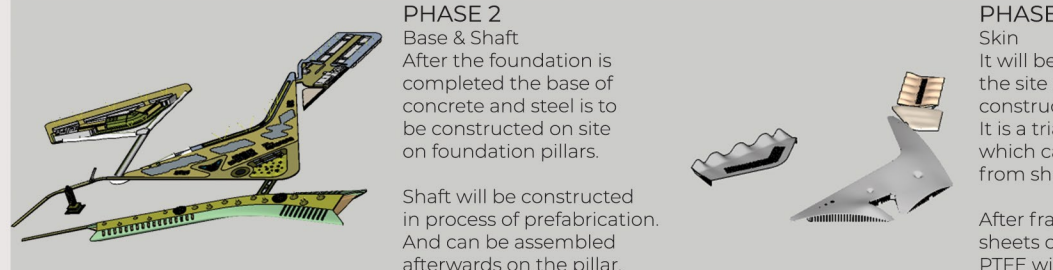
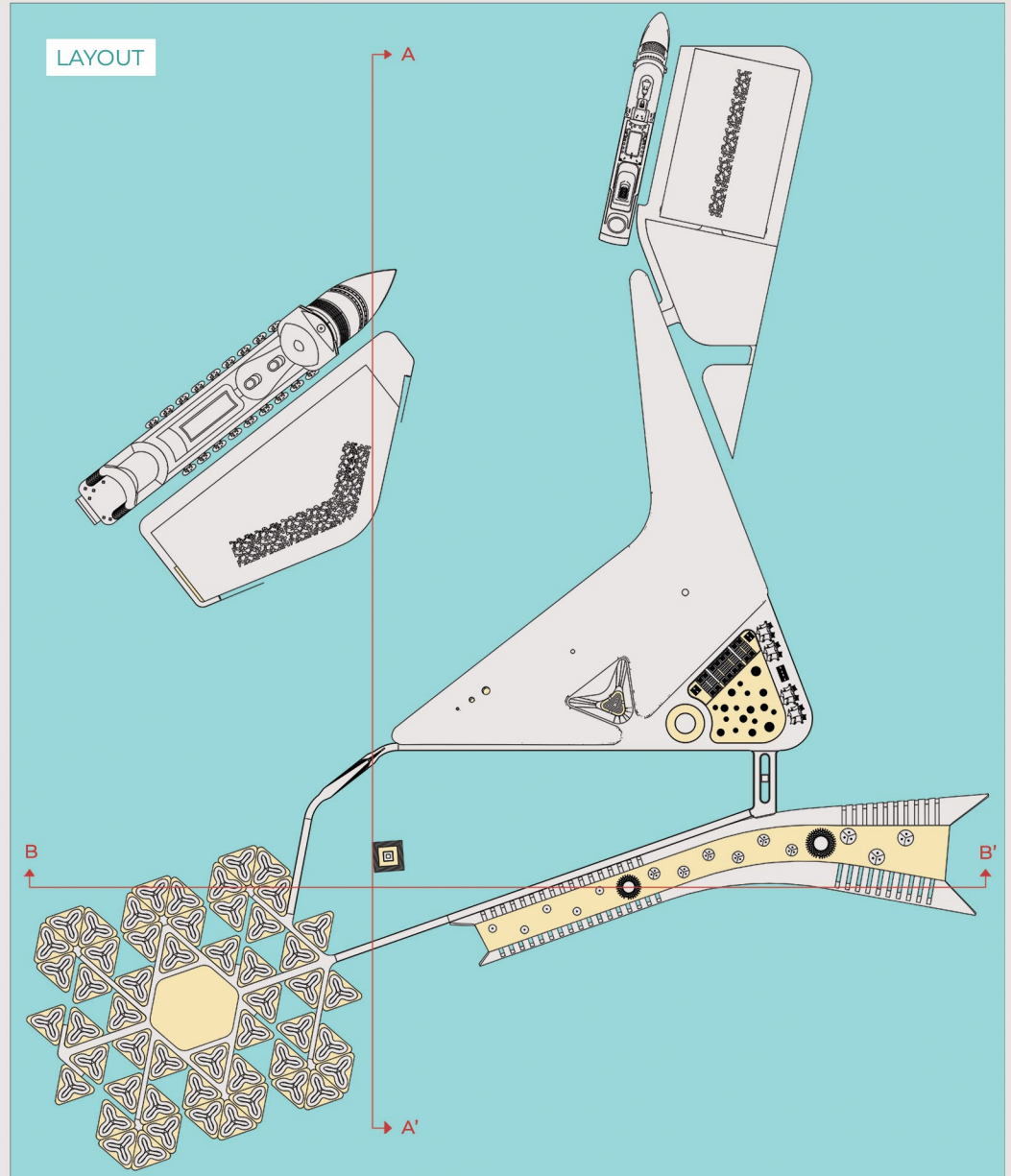
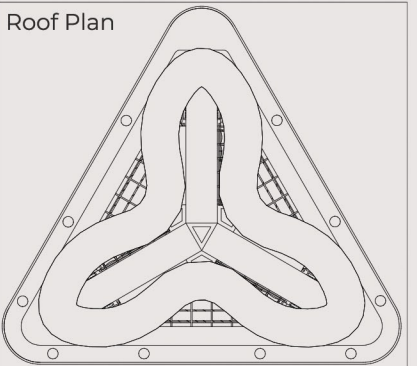
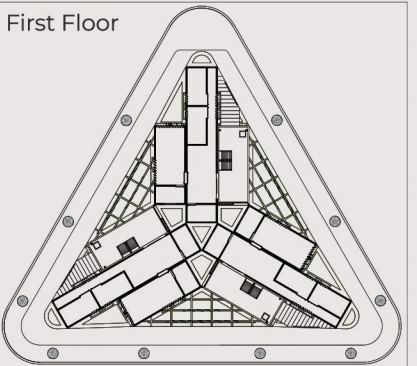
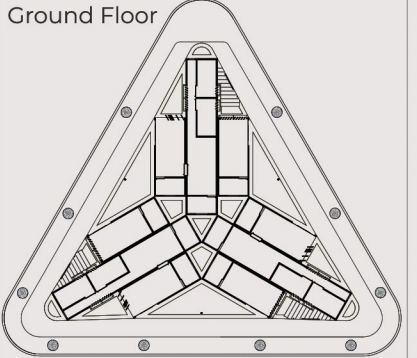
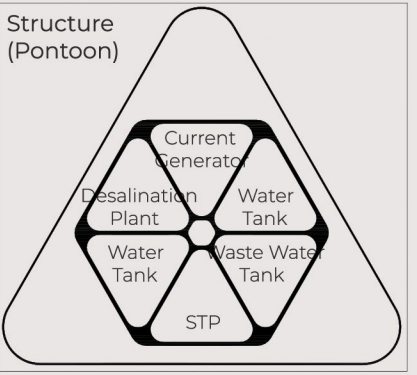
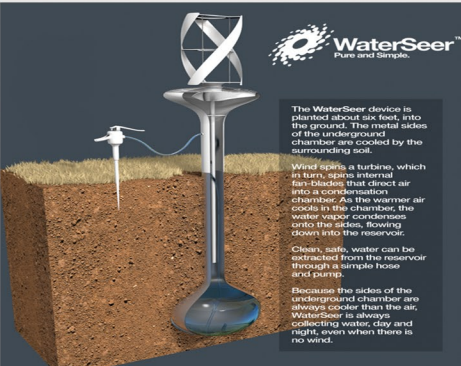
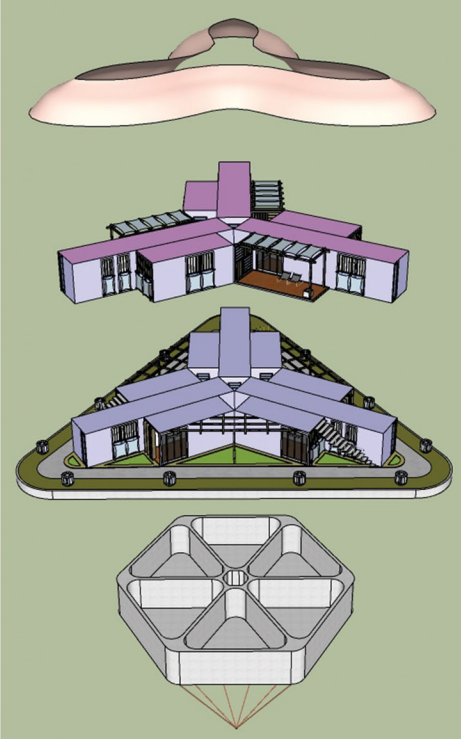
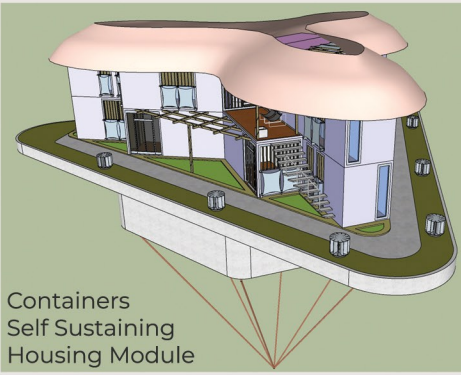
Service & Storage



Zoning



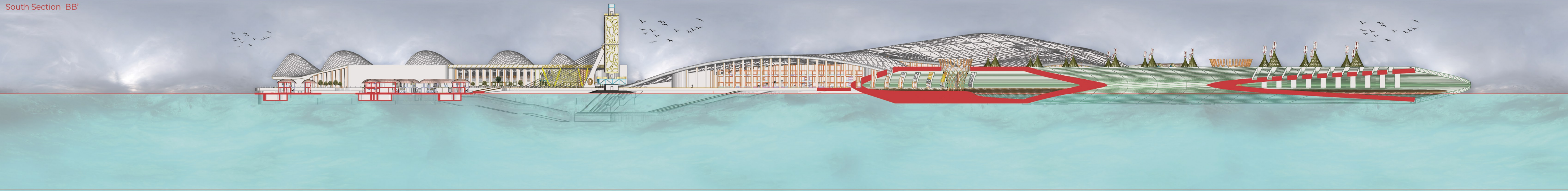
Water & Energy



West Section AA'



South Section BB'

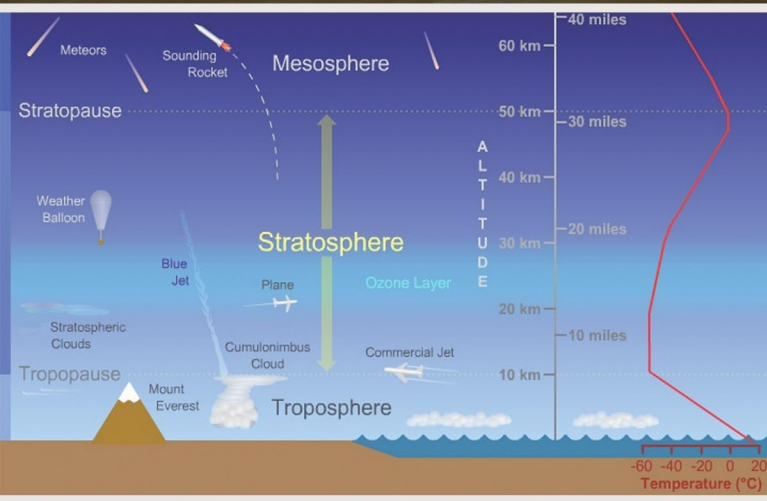


Section W-E



- Uses 50 times less fuel than any Airports(e.g: Heathrow).
- Can carry 15 times more passengers than a plane.
- Soon ships will be Nuclear.
- No pollution at all.
- Lesser ratio of accidents.

INVEST & PROCURE.



QUESTIONS TO ASK

The pollution didn't even had to go there, its there.

Yes, it is right, air travel saves a lot of time but at what cost?

Time is a precious commodity but if you don't have a home how would you spend it?

Do you have any alternative other than air travel?

WHAT ABOUT TIME?

Yes, it is a multi billion dollar industry but there has to be another option to consider, where time is not an Important factor.

VISION

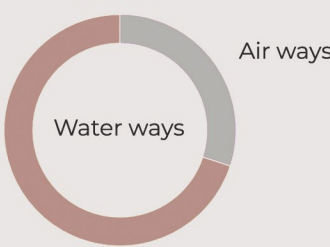
1. Instead of just pleasure voyages and returning to their originating port
2. It can start continental travels & Circuits. And can also be used for one way trips.

IDEA EMERGENCE

As people travel a lot in airways. As a kid I used to watch the white stripes that flights left behind.

There were many talks of people here and there of save environment "Plant tress and save planet." But u cannot save where you can't reach. Pollution is so high that it cannot be trapped into the clouds and has no scope for purification.

SURVEY



Personal survey was carried out (society people)(small scale)
21 out of 30 people opted for cruise.
 * Questions were asked only regarding tourism and migrating students.
 * Proper information was given and after they had to figure out.

VERDICT

Can reduce major Ozone depletion.

Either you can give me your 2 months salary & opt for flight, economy class.
 or
 1 Month of salary and 6 days & opt for cruise, with luxury. Once it becomes mainstream for this purpose.
CHOICE IS YOURS.

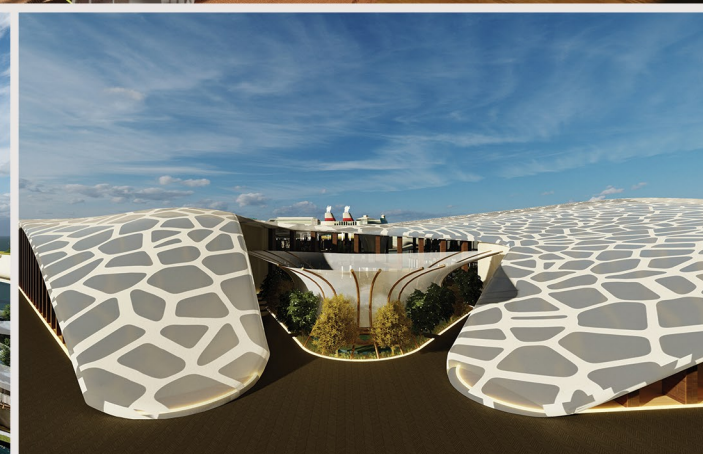
Instead of making MARS home, make this one better or there's no difference between VIRUS and HUMANS.



Must Watch
Walk-Through
Feel the vibe.



South - West



Amphi-theatre



Accoms