

# Terraforming

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# Why?



Thinking in **planetary levels**.

Understanding and working within **complex systems**.

Respecting **planetary boundaries** and constraints.

Finding **resourceful and meaningful** ways to create solutions.

**Simplyfying** complex systems.

Opportunity to challenge yourself and your team to take the time to reflect on a deeper level.

Exploring different ways to **drive transformative innovation**.

# What?

You will be taken into an identified exoplanet to establish the very first settlement there.

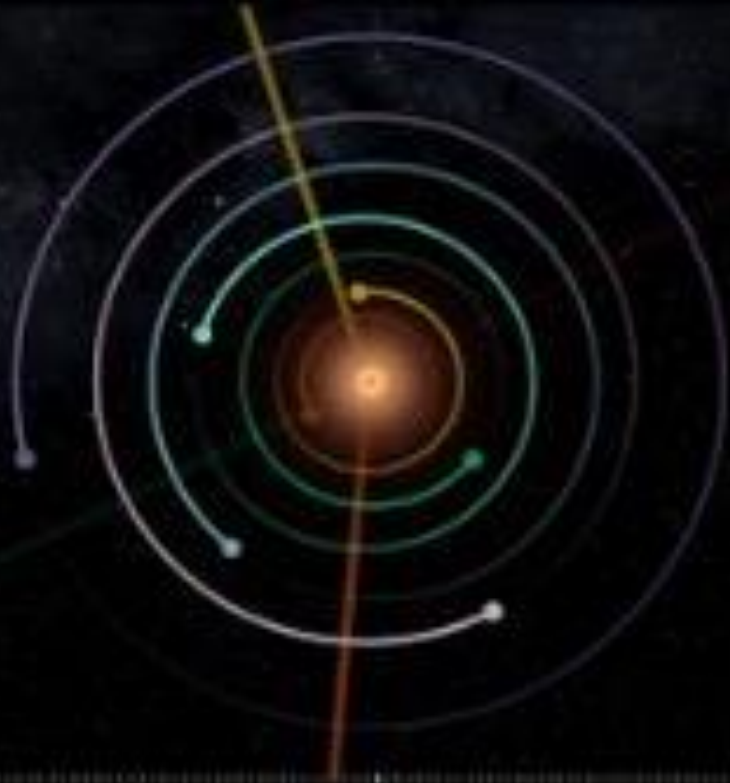
Instructions about your first mission will be given soon.

Don't worry about how you will get there, CERN is taking care of that for you.



# How?

<b>Systems and Futures</b>	<b>35min</b>
Settling in Planet X	120min
Lunch	90min (opportunity to visit the Globe)
Creating your constitution	45min + 30min discussion
Break	20 min
Mapping health on Planet X	45min
Finding tensions and Planetary Insights	15min
Wrapping up and Reflection	15min





# 1. Settling in Planet X

Considering geological, atmospheric, economic, social, ethical and ecological aspects.

120min (until lunch)



# How does Planet X look like?



- What kind of geological and atmospheric elements exist?
- How big is the gravity in this planet? Compared to Earth (1G).
- What is the estimated surface temperature?
- What are the resources available?
- Who are the people you are choosing to bring with you (max. 100)? Why?
- What kind of materials will you bring (max. 1000m<sup>3</sup>)? Why?

Please send your mission request and the assumptions you've made to [exoplanet.settlement@cern.ch](mailto:exoplanet.settlement@cern.ch) so it can be processed by the main ExoSB.

(120min)

# How?

<b>Creating your constitution</b>	<b>40min + 20min discussion</b>
Break	15 min
Mapping health on Planet X	40min
Finding tensions and Planetary Insights	20min
Sharing	15min
Wrapping up and Reflection	15min





## 2. Creating your constitution

What is the purpose of your society and what are the key principles to ensure a healthy settlement?



# How will your settlement function?



- What is classified as a **healthy individual**?
- And a **healthy community**?
- What are the **key principles to ensure good health** in your settlement?
- What is the guiding **purpose** of this society?
- How would you want to **organise the group**?

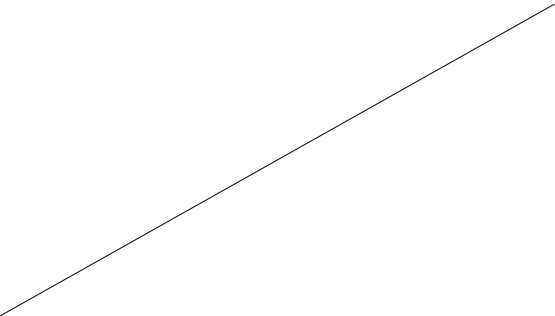
Consider social, ethical and environmental elements.

(40min)



# 2. Mapping Good Health on Planet X

Finding the systemic nature, what happens if we make these kinds of rules?  
How do we treat the planetary limitations?





# How does Good Health and Well-being look like in Planet X?



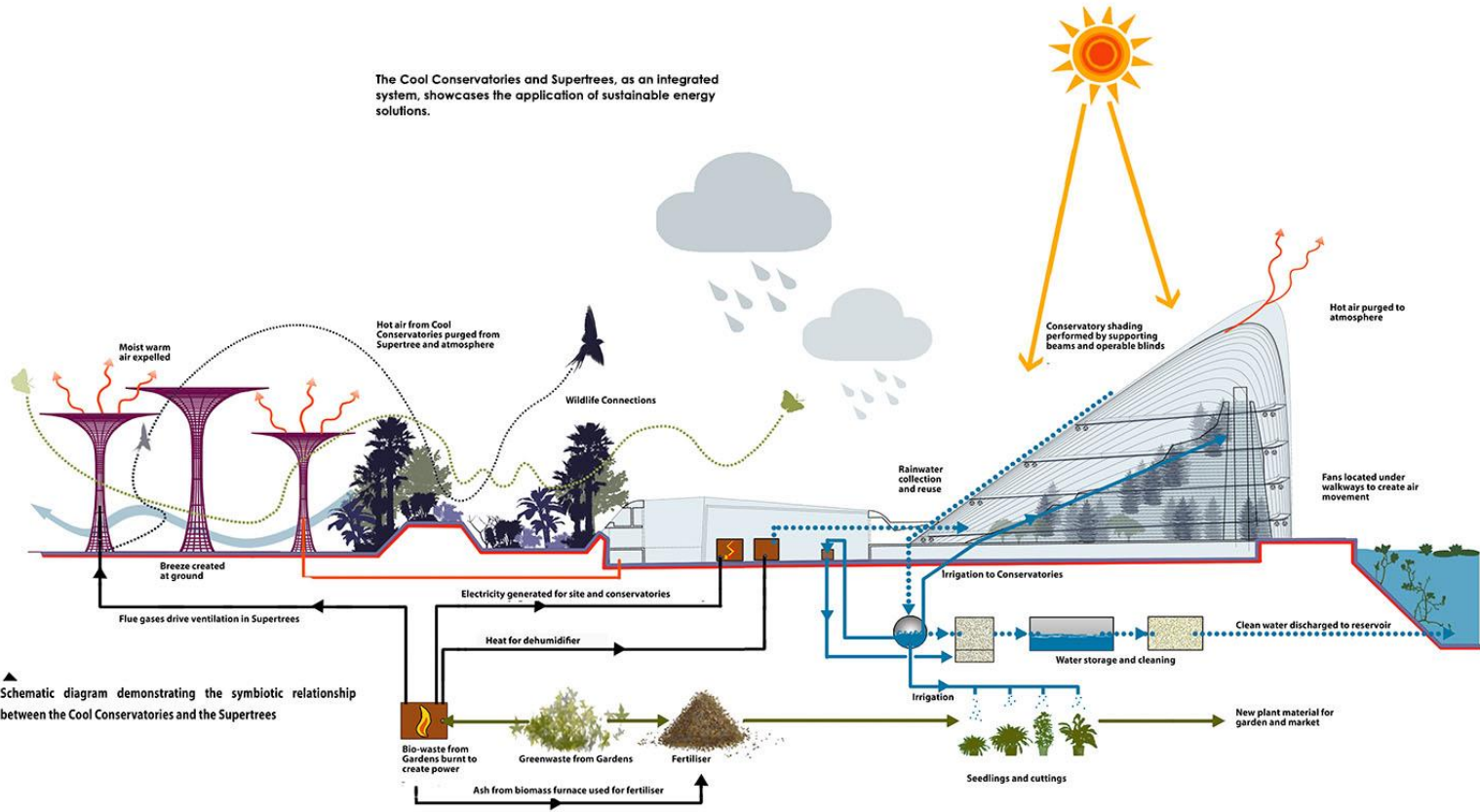
- What could be the basic system to ensure your that your constitution is implemented?
- What kind of stakeholders and intervenients are present?
- How do the relationships and interconnections between them look like?
- What are the inputs and outputs of the system?

Record for yourselves how you're tweaking the system as you move along.

(40min)



The Cool Conservatories and Supertrees, as an integrated system, showcases the application of sustainable energy solutions.



Schematic diagram demonstrating the symbiotic relationship between the Cool Conservatories and the Supertrees



# 3. Finding tensions

Mapping pain points and their systemic connections. Crafting Planetary Insights.

Send them to [exoplanet.settlement@cern.ch](mailto:exoplanet.settlement@cern.ch)



# Where are the tensions in your system?

Look at your health map and reflect on it:

- Are your constitution principles reflected?
- Are any of them violated?
- What are some of the pitfalls?
- Are there any unintended consequences?
- How are you respecting resource balance (inputs and outputs).







# Example of reflections



- How to ensure that everyone gets quality education?
- How to ensure equality through education?
- There is so much to learn, what should be taught to everyone and what should be specialization?
- How do we ensure lifelong learning?
- How might we ensure there are enough pedagogically skilled teachers?
- How might we make education engaging?



# How might we...?

1. Think about the challenges you identified in your system.
2. Brainstorm them in your groups and document them (sticky notes, whiteboards...)
3. Write them in the form of “How might we...” questions.  
These questions help us identify opportunities for design and should be broad enough to allow us to explore multiple solutions.



# Example



How might we ensure that everyone gets the same necessary skills to become actively contributing members of society?

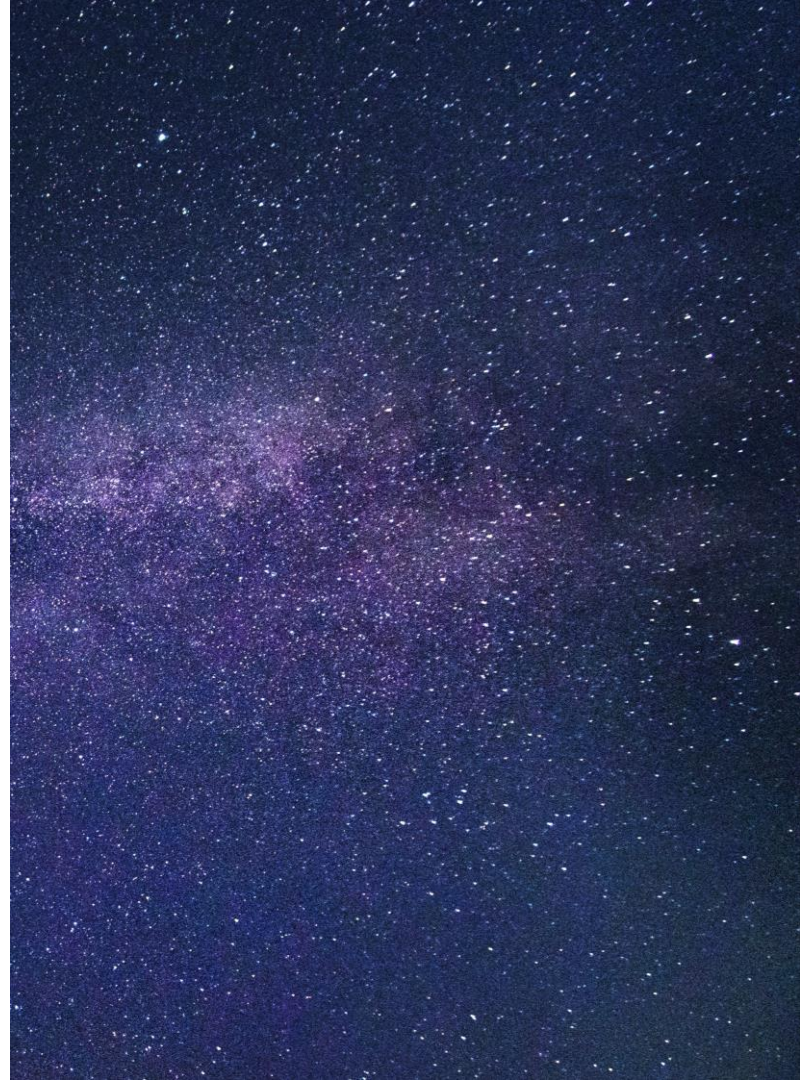
- How might we make education engaging?
- How might we ensure access to education throughout a human's life?
  - Ability to go get the education
  - Availability of education

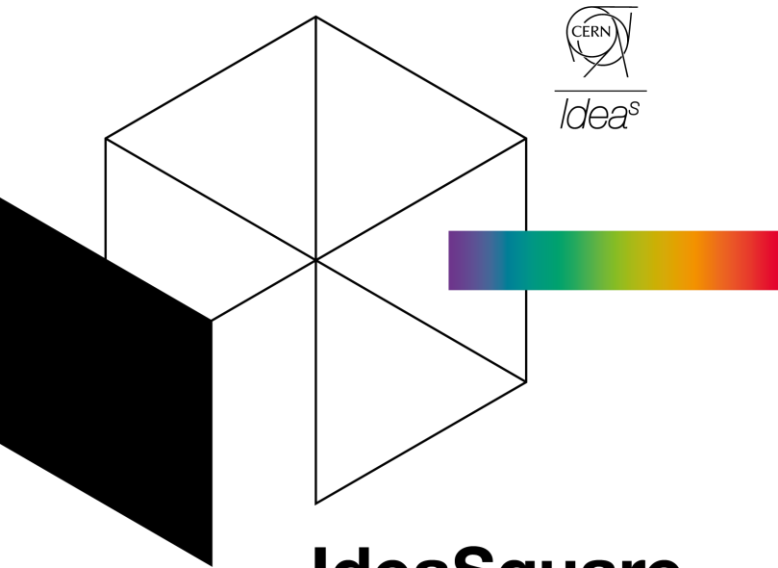
# Document your Planetary Insights

Collect the tensions you identified and how you transformed them into “How might we” questions.

This might provide you some insight on how these tensions might also be relatable to planet Earth.

(20 min)





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The innovation space at CERN

**Thank you!**