



# SYNTHESIS

## Design-Concept Poster

*"Designing a sustainable solution to hinder the transmission of COVID-19 in refugee camps in Greece"*

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Challenge in times of COVID-19"  
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# A sustainable solution in times of COVID-19

## Challenge question

*How can we design a sustainable, physical solution – a prototype technology – that hinders the transmission of COVID-19 in refugee camps in Greece?*

## Stakeholders

It is important to realise that the consequences of COVID-19 are important for everyone. Most people feel like they lost some capabilities and if not, everyone feels the economic, social and environmental consequences. That is why everyone is a stakeholder in this story.

For our design specifically, refugees that live in Greek camps are the main stakeholders. They currently have limited possibilities of protecting themselves against COVID-19. They have no possibility of handwashing, because they share a watertap with up to 325 people. Furthermore, they share tents and containers with many people and have hardly any personal space. This makes social distancing impossible.

Additionally, we are designing for volunteers within the refugee camps. These people are, now more than ever, faced with extreme working conditions. The limited protection possibilities for refugees, mean that volunteers have a high risk of getting

infected. Implementing better protection policies will protect not only refugees, but also volunteers.

Furthermore, governmental bodies in Greece are important stakeholders. They will be the ones to implement policies that allow our product to be used in a fair, sustainable and affordable. In order to enable them to do this, we must figure out their desires and needs.

Lastly, the UN and WHO can play an important role in developing of our product. They have a large network of volunteers and can provide us with a knowledge. Additionally, they have access to funding, which we could use to develop and produce our technology.

## Capabilities

Nussbaum (2000) has stated the following 10 capabilities as essential:

- Life
- Bodily health
- Bodily integrity
- Senses, imagination and thought
- Emotions
- Practical reason
- Other species
- Affiliation
- Play

- Control over one's political and material environment.

All of our specified stakeholders have lost some of these capabilities during COVID-19, which is why we will try to design to restore these capabilities.

The first capabilities we will design for are life and bodily health, by decreasing the transmission of COVID-19 within the refugee camps. We will also design for other species, which means that we will make our design as sustainable as possible. Furthermore, we are designing for senses, imagination and thought. Finally, we will design something that stimulates the control over one's material environment, meaning that we will try to increase the availability of PPE.

## Design inspiration

Lots of new initiatives regarding sustainability have arisen during the COVID-19 pandemic. They will give us a sense of what is possible with current science and inspire us for our own solution. These initiatives include:

- Sustainable PPE waste management by different processes
- Decontamination of masks and respirators using ultraviolet light
- Biodegradable gloves, which decompose in a landfill in two years
- Plastic-free visors made from paper board and wood pulp cellulose
- Converted shipping container decontamination systems, which can decontaminate 80,000 masks at once using concentrated hydrogen peroxide vapour
- 3D-printed reusable masks