

Design for resilience in the space ecosystem: A cosmopolitan approach

Outer space has become a non-cooperative game for a few players with infinite resources, in an environment with limited resources.

Military polarisation, unregulated resource extraction on celestial bodies, billionaires colonising planets, end of the International Space Station, traffic out of control, light pollution of the skies, rockets crashing on the Moon, satellites colliding, ... And tones of space waste on the closest orbits to Earth. This is the legacy for the new generations of space citizens, and the problem will grow.

Some governments are trying to remediate before it's too late, but who actually pays the bill is the unaware civilian society. This project aims to raise awareness among a wide audience of civilians and to provide them with a tool to affirm their democratic power. A way to have a real impact on the environment by learning, socialising, having fun and getting recognition.



The League for the Planet

A cultural metaverse, to experience and learn about outer space like never before.

A network of custodians, moved by the mission to safeguard the province of all mankind.

Users can customise their NFT like works of art. When a piece of debris is actually removed from orbit, causing benefits to all the space actors, the NFT linked to that piece becomes part of the Museum of Space Resilience: A virtual gallery paying tribute to the NFT owner, to the company behind the removal mission and to the government that allowed it.

ONE is a non profit project, the money generated through the NFT sales and the premium services is spent to fund the removal of space debris, a circular business.



This project aims to give an example of how, by design, the space economy can transform a systemic burden into a profitable opportunity, by co-creating the future of space with the civilian society.

Space 5.0

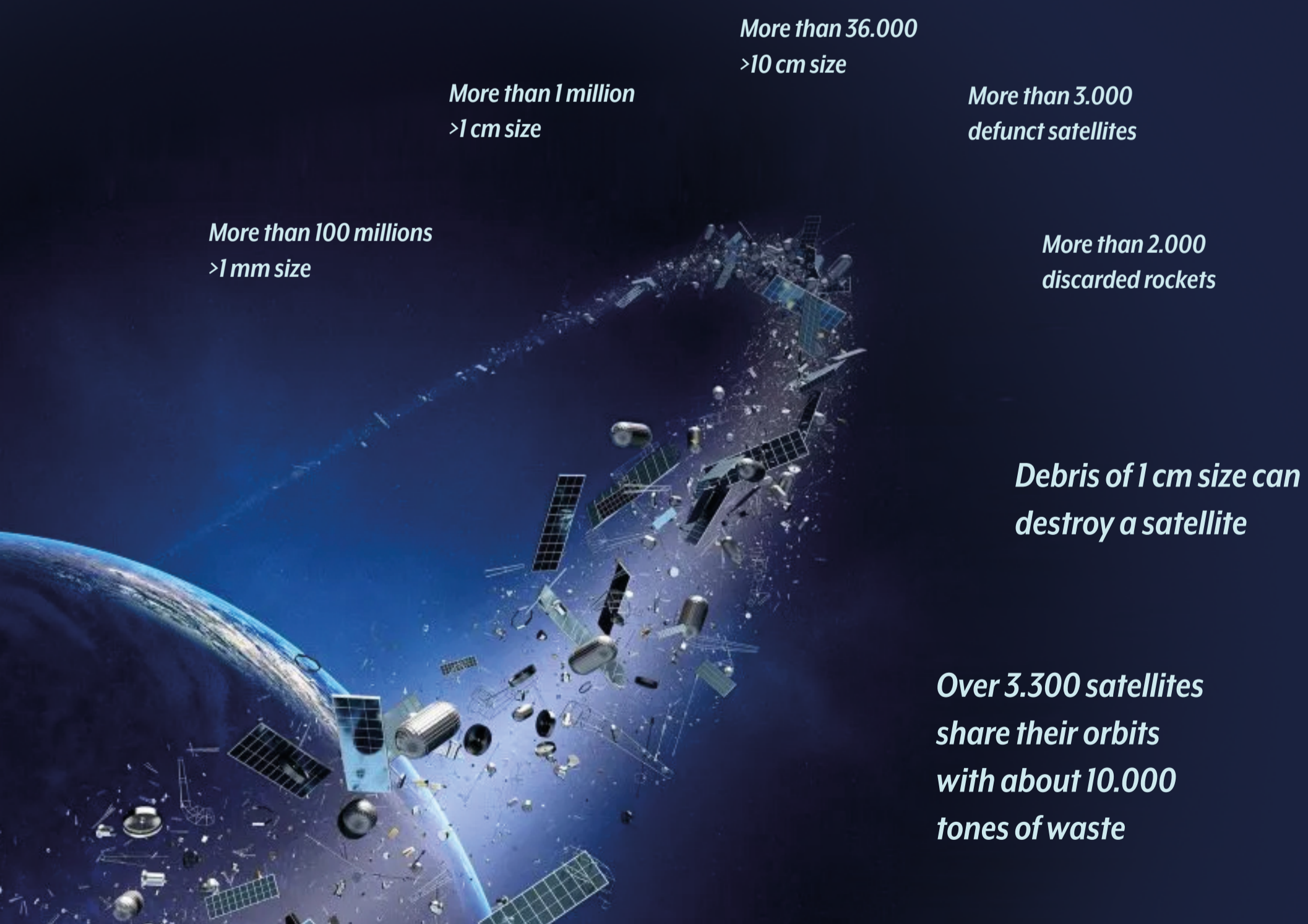
a time when space is evolving from being dependent on the initiative of a few private and public actors, to a situation in which all the resources are managed on the basis of co-ownership, co-creation and co-responsibility with the whole civilian society.



By enhancing the innovative tracking technologies developed by Vyoma Space, project ONE transforms space debris into unique virtual assets, that parents can purchase for their children under the form of non-fungible tokens (NFTs).

By owning one, the kid becomes the guardian of that space asset and can monitor its position, its daily risk of collision against other objects and its probability to be removed, an event that would benefit anyone involved in the space economy. The token also serves as an identity card to get in exchange the possibility to enter a universe of educational entertainment services. ONE is a metaverse that replicates the actual outer space environment, with real-time data from spacecrafts, debris and other objects, to be experienced through immersive technologies.

Diving into the sun to learn about its composition, dodging real debris in a videogame, visiting an art gallery on the rings of Saturn, experiencing concerts on board of SpaceX satellites, socialising with other debris owners crossing the same orbits (by using the ONE app for smartphones in augmented reality), ... With ONE children can learn about space like never before.



Hi PathfinderXI,
Your debris is in collision route with
Guardian09, time remaining 2h 54.
Do you want to open the chat?



Gianmarco Luggeri
Design for resilience in the space ecosystem:
A cosmopolitan approach
15th June 2022
MSc Strategic Product Design

Committee Giulia Calabretta (chair)
Erik Tempelman (mentor)
Chris J. M. Verhoeven (secondary mentor)
Stefan Frey (company mentor)

Company Vyoma Space

