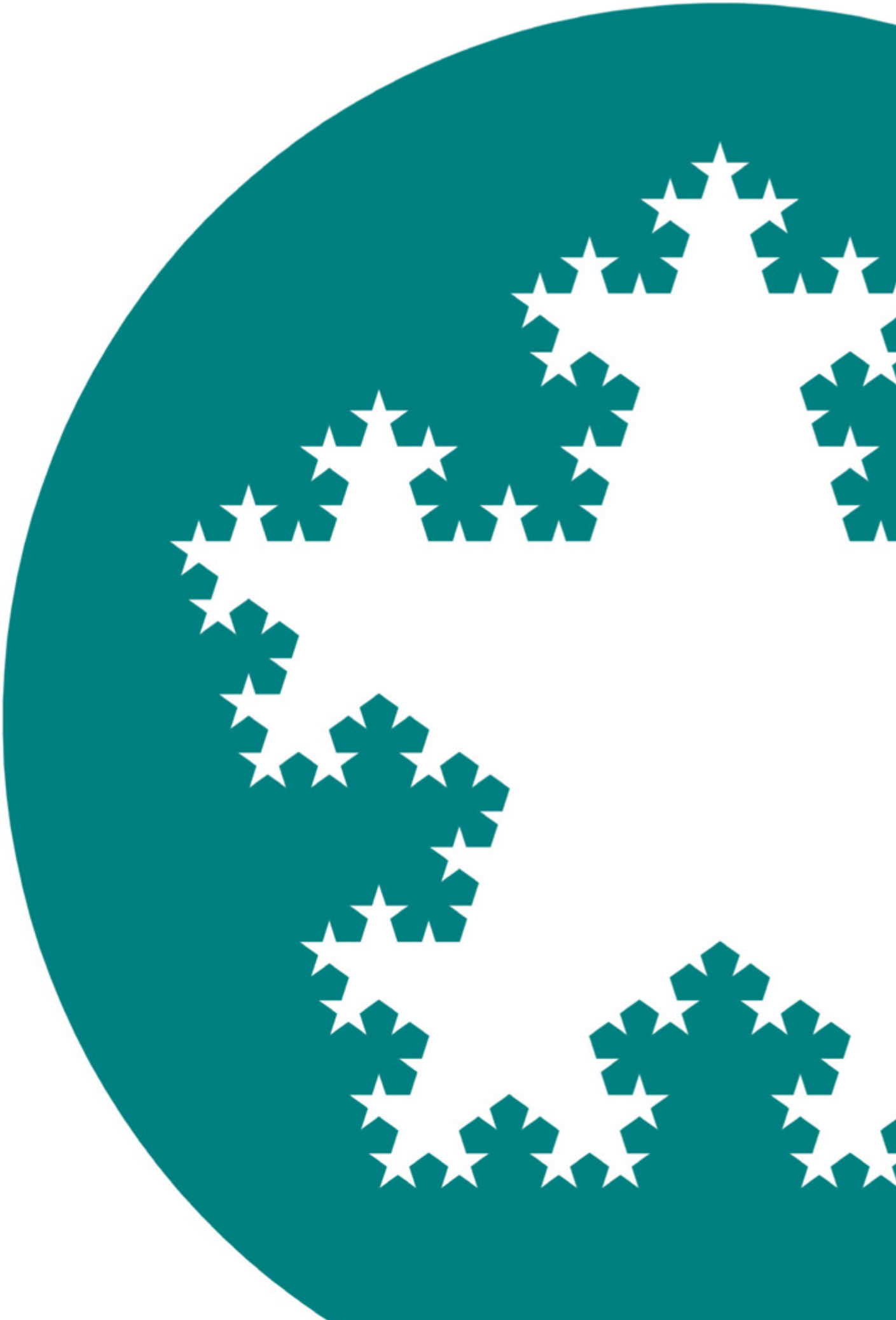
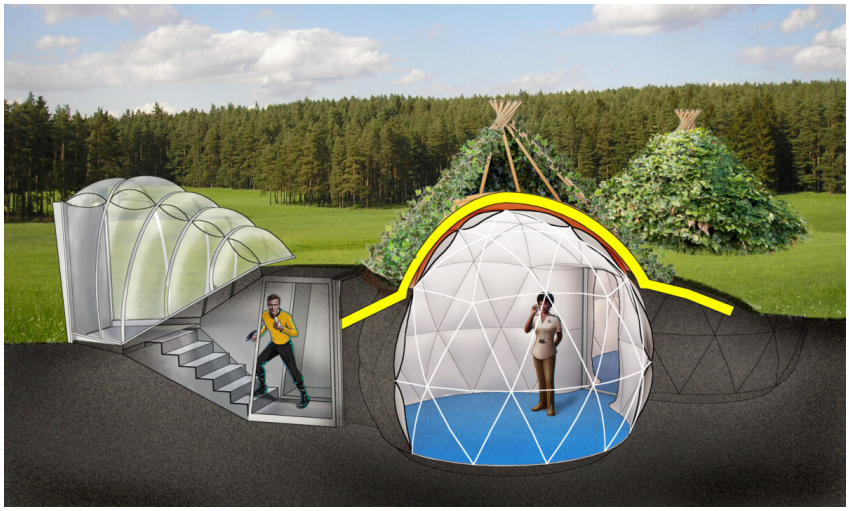
PNEUMO
“only building nothing



Pneumo Planet

A novel inflatable modular prefabricated earth house that requires no energy for heating or cooling and uses almost no building materials.

A novel modular prefabricated house system derived from a previous Moon habitat design. It combines the advantages of ultra-light inflatable membrane structures with those of earth houses.



The building envelope consists solely of a double-layered membrane shell. Underground, the temperature fluctuations between summer and winter are minimal. When solar radiation enters through the windows in summer, excess heat is absorbed by the surrounding earth and stored for several months, so that the surrounding earth maintains a temperature of around 20°C throughout the year.

A PNEUMO PLANET earth house requires no energy for heating in the winter or cooling in the summer. It requires very little building material and therefore has a very low ecological footprint even during construction.
It consumes very little green space and integrates into the natural landscape.
Additionally, we expect a reduction in construction costs of approximately €1000/m² compared to conventional solid construction

USP

A new construction method that saves a great deal of cost and energy, and also uses very little green space.

Target Market

Residential houses, vacation homes for tourists, analog space habitats, buildings in nature reserves.

Space Connection

The Pneumo Planet earth house is derived from the construction method of the Pneumo Planet lunar habitat, which was developed in an OSIP study for ESA. Insights gained from the development of the earth house can, in turn, benefit the development of lunar and Mars habitats.

Team

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