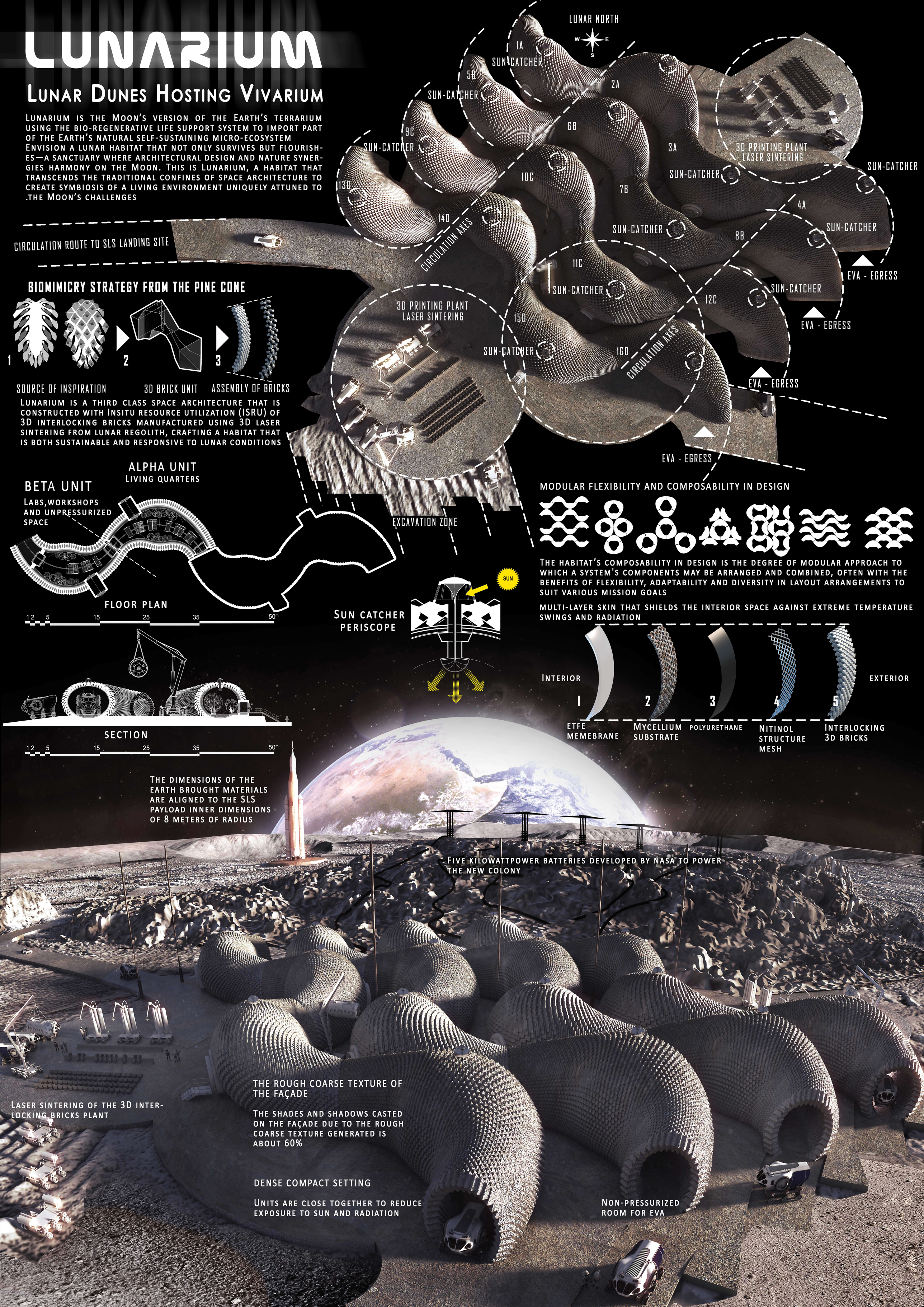
LUNARIUM

Lunar Dunes Hosting Vivarium

Lunarium is the Moon's version of the Earth's terrarium using the bio-regenerative life support system to import part of the Earth's natural self-sustaining micro-ecosystem
Envision a lunar habitat that not only survives but flourishes—a sanctuary where architectural design and nature synergies harmony on the Moon. This is Lunarium, a habitat that transcends the traditional confines of space architecture to create symbiosis of a living environment uniquely attuned to .the Moon's challenges



Biomimicry strategy from the pine cone

Lunarium is a third class space architecture that is constructed with Insitu resource utilization (ISRU) of 3D interlocking bricks manufactured using 3D laser sintering from lunar regolith, crafting a habitat that is both sustainable and responsive to lunar conditions

Modular flexibility and composability in design

The habitat's composability in design is the degree of modular approach to which a system's components may be arranged and combined, often with the benefits of flexibility, adaptability and diversity in layout arrangements to suit various mission goals

Multi-layer skin that shields the interior space against extreme temperature swings and radiation

The dimensions of the Earth brought materials are aligned to the SLS payload inner dimensions of 8 meters of radius

Five kilowattpower batteries developed by NASA to power the new colony

Laser sintering of the 3D interlocking bricks plant

The rough coarse texture of the façade

The shades and shadows casted on the façade due to the rough coarse texture generated is about 60%

Dense compact setting

Units are close together to reduce exposure to sun and radiation

Non-pressurized room for EVA