THE **LIT / L**IGHT **I**NFINITE **T**RANSFORMATION

1. **WORKING WITH ENERGY**

Our aim is to create a land art structure inspired by the positivity and optimism brought by the renewable energy, a structure designed as a resilient, poetic and regenerative *Urban and Architectural System*.

The result is a proposal for the environmental and educational enhancement that tries to intensifies the sense of optimism and beauty given by the duo *nature - renewable energy infrastructure.*

The iconic matrix of the Moebius infinite ribbon bounces between soil, subsoil and sky, generating LIT, a sculptural urban systems generating energy.

The LIT considers the energy as an integral component: the sun, the sand, the sky and the subsoil are proposed as integral parts of the urban fabric of the existing and future connection.

The designed *green lung* offers to the researchers and residents a natural space that is a synthesis of the relationship between nature and artifice where lights and shadows chase each other and draw the soil and the context.

**LOVE THE WIND**

THE LIT shows almost geological section that digs the cavernous body of the underground and puts it in connection with the ancient limit of the oceans: the light returns to caress the ancient caves!

The sectional ploy generates an archipelago of natural microclimates that allows to live the open spaces in a condition of environmental and perceptive well-being.

The visitor will be able to cross the garden along the outdoor (NON UNDERGROUND) a physical and emotional canyon, made of colors, shadows and lights, vegetation and rock.

The LIT measures this energy *section* and describes itself as a *sculpture/building* capable to offer a hedonistic experience to its users.

The *sandy* parallax proposed by the LIT marks a physical and representative longitudinal connection between the two horizons of the desert (north and south), enhancing its value and beauty with ancestral view points - the ancient level of the oceans -: the visitors can “float” and admire the surrounding environment and the Masdar from about 30 meters height.

**THE LIMPH**

In the unveiled subsoil a series of water basins will be created having recreational and environmental functions and proposes an evocative urban relationship with water, a symbol of life and prosperity.

THE LIT an aesthetic and lymphatic system of energy production and hedonistic experience of life in the desert.

Almost like a coral found in the desert, THE LIT leans towards the light, captures it and transforms it into color and energy. Its geometric nature is cavernous and lymphatic, necessarily non-Euclidean. Born from the desert and its winds, THE LIT transforms itself and moves.

Its base is created from the subsoil and is redesigned by the sands carried by the wind. THE LIT loves the wind.

Its living, scaly skin is made of panels capable of capturing and transforming the energy of the sun, wind and environmental humidity.

**MICROCLIMATE**

The LIT generates steam thanks to a very fine metal mesh able to capture the humidity in the air both during the day and during the night. The humidity is collected in tilting tanks which, upon reaching a certain level, overturn and generate a scenographic cascade which, together with a misting system, guarantees the creation of a micro-system on the ground characterized by water collection basins and ethereal nebulizzed walls capable of refracting the light of the desert and creating an oasis with colorful and useful mirages.

**2. A HYBRID SYSTEM**

THE LIT is imagined as a component (PARCEL A) within a wider urban and landscape system (PARCEL B).

The form of The LIT is the sculptural synthesis of its functioning (gravity to generate waterfalls) and its strong presence on the site.

It is a synthesis of strongly fractal natural energies (light, wind, sand, water) and urban fabric.

**3. COMPRESSING the LIT site**

The LIT is accessible from a main road that assigns the value of GATE to the city of Masdar. Present but not arrogant, visible and different in its forms, useful and functional.

The southernmost portion of the LIT remains deliberately poorly designed, as if to welcome the desert in this north finger, aware that it cannot and does not want to oppose the force of the desert winds and its dunes. Here the desert will continue to draw the territory. Dense and "random" vegetation will be the true natural monument of this part of the project site.

The LIT site hosts an important part of the garden on it, almost 15 meters high, aware of a destiny marked by which the desert can grow and reaffirm its invisibility.

This "PINCHING / SEWING" effect produces a series of urban public and semi-public spaces between the two curtains of adjacent buildings.

A double-height lobby is the access node to the functions and welcomes visitors at the street level and the lower floor

upper level:

* **hydroponic pools**
* reading/study areas
* ATELIERS for educational projects

street level:

* event center
* coffee shop
* multimedia & info center on renewable infrastructure

underground level:

* wellness center
* energy storage and distribution plant
* **HUMUS FARM**, the hidden treasure of the structure, where decayed plants from the LIT site gardens are used to create compost and humus.

**4. TRANSITIONAL SPACES** / THE SIT building

From an architectural/distribution point of view, The LIT building is the synthesis of a double organic Moebius strip and is designed to organize spaces along a continuous flow, in an almost / museum path that allows the visitor to experience the whole energy production cycle.

**5. SHADOW MACHINE**

Designed and sized to contain the main program of the intervention (hydroponic tanks, solar panels, environmental humidity capture grids, environmental air conditioning systems),LIT has been designed to function as SHADOW DEVICES.

From a geometric and sculptural point of view, the organic / curvilinear trend of the LIT is controlled by an algorithm that reacts to the movement of the solar sphere, guaranteeing a geometry of main shadow projected to the ground during the hottest hours of the day, with longitudinal development longitudinal to the project lot, as well as a mesh of transverse shadows between the residential area and the one dedicated to researchers.

Integrated by a series of water basins and waterfalls, the project explores an idea of ​​sustainable public space even in these latitudes, without abdicating its iconic and environmental function.

**6. LUMINOUS DESTINATIONS**

With the arrival of the night, Masdar city becomes even more attractive and its LIT is proposed as a luminous destination for the residents and visitors to enjoy. In the evening, LIT brightens up with a thousand lights and colors.

The skin of the sculpture is covered with LEDs and its adjustable and sensitive panels are able to offer an always different glowing effect.

**7. The soustinability**

The LIT stands out in the Masdar sky

The LIT is covered by a particular double skin structural façade, composed of over 26,000 honeycomb panels alternated with the latest generation of solar panels, the result of work to optimize the 3D model of the intervention.

The result is a structure that, although complex in its geometry, is easy to assemble.

Structurally The LIT is designed to be self-supporting and to be eventually assembled and removed, according to the most recent trends in the field of green building.

The LIT wants to present itself as an example of smart-architecture, able to adapt to the climatic conditions of the place.

The façade is computerized, thanks to a point form system of environmental sensors that respond to natural stimuli, opening and closing upon the movement of the sun.

The LIT offers a highly recognizable design, a responsive and proactive technology, without neglecting references to the Arab tradition. Inspired by the air-conditioned towers of the Arab world, the double-skin technology designed for the façade allows to reduce the internal temperature by 50%, without losing the precious energy source of the sun.

The result is a sharp decrease in the consumption and operating costs of The LIT system, capable of producing

up to **32,7 MWH/DAY**

The sculptural approach of the intervention and the technological solutions adopted intend to respect the architectural heritage of the existing city by "differences", proposing a decidedly dissonant structure.

Even the beehive structure of the facade is a deliberately “twelve-tone interpretation” of the traditional "mashrabiya", that is of the reticular wooden structures typical of Islamic architecture used for privacy and to shield the house from the sun's rays.

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**+ Our only solution is TO ENERGY!**

**WE DEFINITELY CAN!**

Energy means nourishng the Planet as **WHOLE** in a dynamic and accelerate process and humanity has all the necessary instruments.

We live in a world where the information is a constant and continuous flow infinitely **SHARED**, and we are also sharing our **CONSCIOUSNESS**

We are aware of our necessity and ability to generate and share **SUSTAINABILITY** for the present and future.

Our immediateness can be created only by developing

our **SHARED SustAbility**!

What we have inherited from MASDAR is a perfect shared information patchwork on our capacity to create and generate SustAbility - we only need to apply it, **TO ENERGIZE.**

The LIT, seen as a shared information patchwork is a CORE where we grow, nourish our lives, our future, our children’s future, the world’s effective happiness set point that determines an overall wellbeing.

The LIT, seen as a shared energy laboratory is a CORE where we grow our future, the world’s effective happiness set point that determines an overall **wellBEING.**