

## ALOXYGEN = ALGAE + OXYGEN

ALOXYGEN serves Earth quality natural Organic fresh air for settler on Mars. ALOXYGEN also can produce nutritious food, bio-petroleum and compost every 2~3 weeks constantly. This system is going to be developed on terraforming in the future.

2030

2040

2050

2060

2070

2080

2090

## MARS TERRAFORMING and SETTLEMENT PROJECT

Implimentation phase

settlement phase

2033

2057

Mission01

Grounding and Setting up pre-installed Habitat Unit

Mission02

Extension and Infra Improvement of Habitat Unite

Mission03

Construction and Environmental Improvement

Mission04

Organic Air Farming and Soiling

Mission05

Health care and Farming

Mission06

Farming and Resource Mining

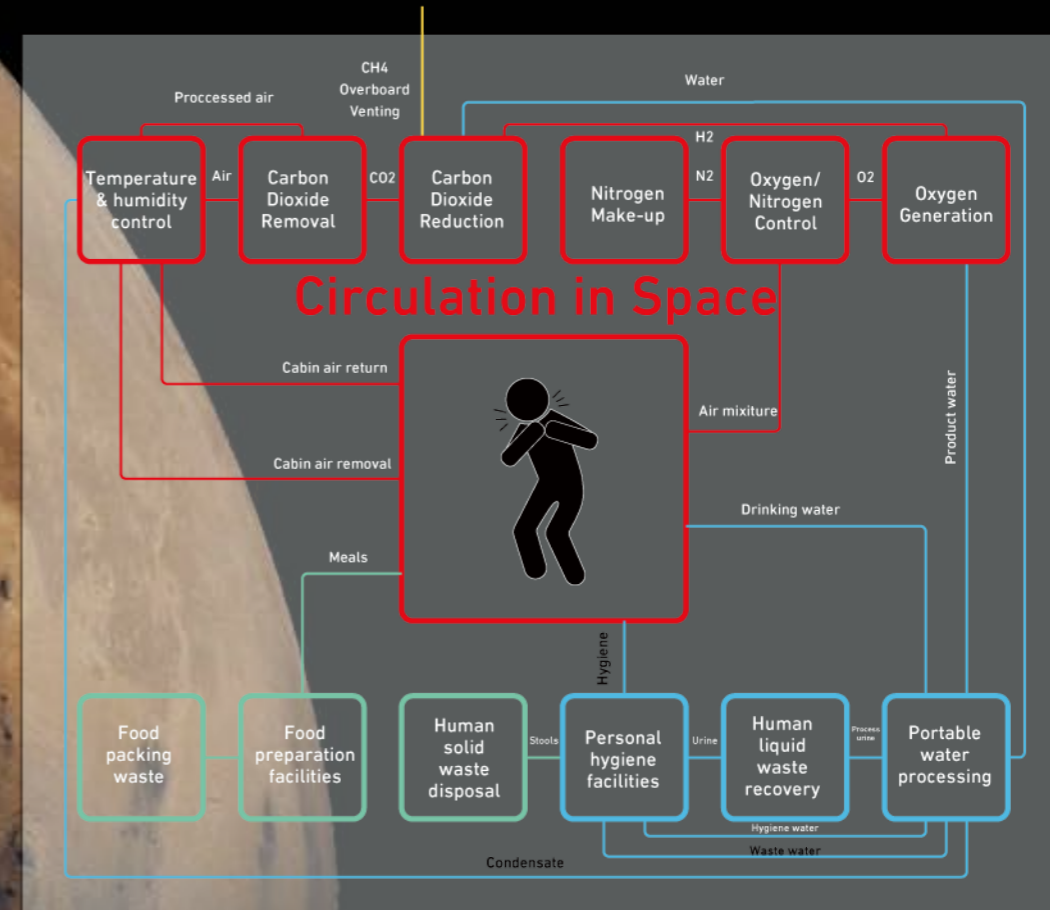
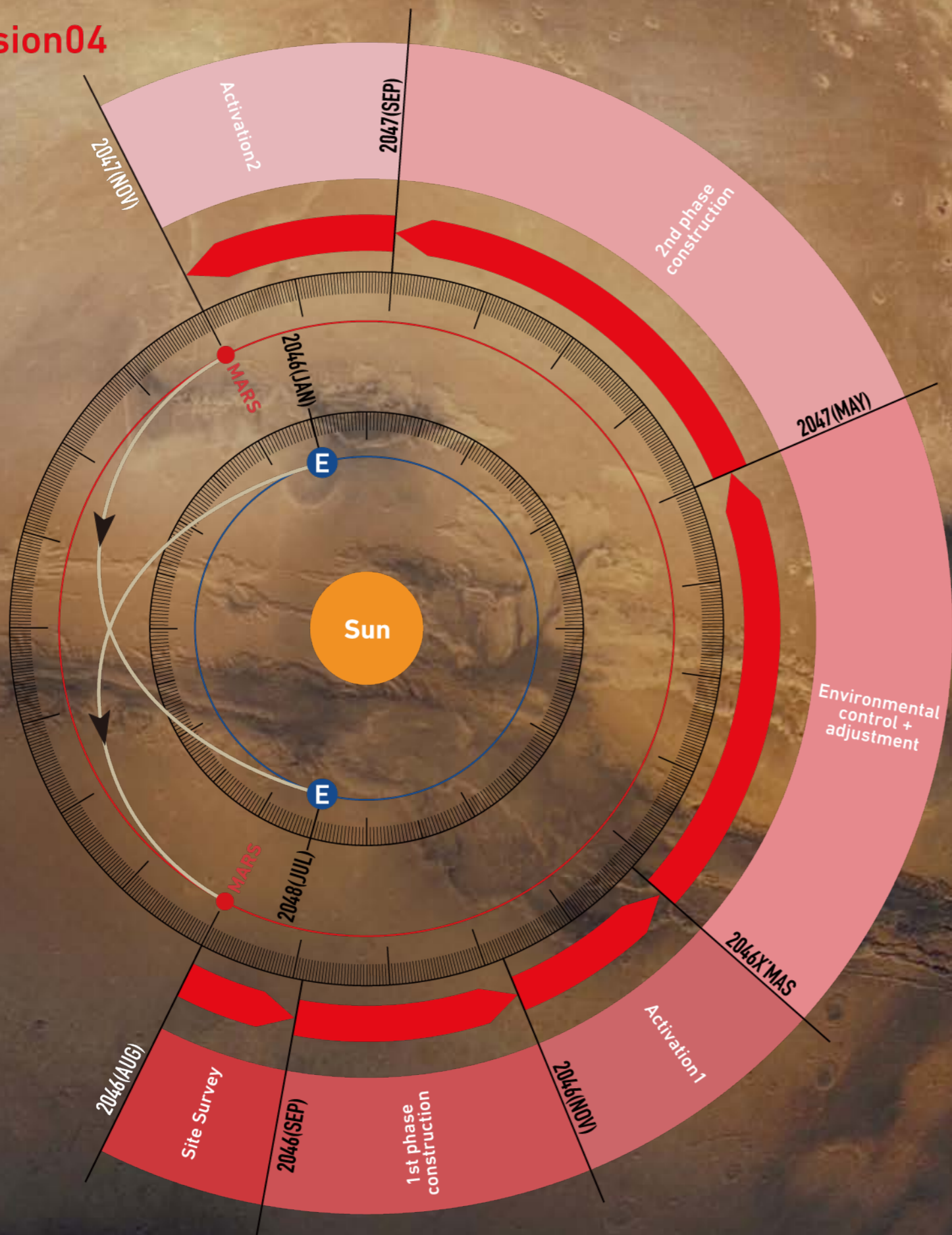
## STORY

MTSP (Mars Terraforming and Settlement Project) is the most ambitious frontier project in human history. The idea of this MTSP is to bring Mankind to Mars and settle them down safe and healthy. It is planned to be completed by 2088 for turning Mars into "Earth Homing" colony for human being. This colony has to realize self-sustain environment with minimum resource supply from Earth. 40% of food has to be grown locally, 80% of air and water supply from recycling and percolation system, and 100% of energy resource production on Mars. In terms of achieving this big project,

MTSP is divided two phases. First phase is called "Implementation Phase" and second one is named "Settlement Phase."

The "Implementation Phase" is going to be completed by well-trained crew within 6 Missions from 2033 to 2057 for installing habitable units, basic infrastructure, transportation, farming soil and energy solution. It makes easier access to Mars for non-trained settlers in "Settlement Phase" in the end. Each Mission in first phase is scheduled 31 months long period.

## Mission04



● Air/Gas ● Liquid ● Solid ● Vented Gas

## Suffocation

Many of the crews reported the suffocation during the mission on Mars, however the environmental research didn't find any cause of this symptom at the first place. According to the analysis through past three Missions, many of the crew members, who work very hard under pressure, were having symptom of suffocation often, however scientifically qualified fine air was well circulated in the room. The research team of their suffocation couldn't discover any physical cause, and it had been a mysterious phenomenon for many years. After some analysis done by psychiatrist, the research team finally found that the "AIR" is the solution for this problem.

The crew members have many works to do everyday, heavy schedule and always feeling of oppression in artificially controlled room. We can't simply be in such a circumstance, because our mental is not designed for being long time under artificial environment without nature for long time, since mankind never be isolated from nature in human history. Existing Environmental Control and Life Support System is an artificial process in closed environment which simply caused suffocation.

Mission4 is now journeying towards to Mars for solving the problem of suffocation. Their mission is scheduled 31 months long, from departure to Mars until returning to Earth. Duration of single trip between two planets is about 8 months on Hohmann Transfer Orbit. And 15 months working mission on the surface of Mars.

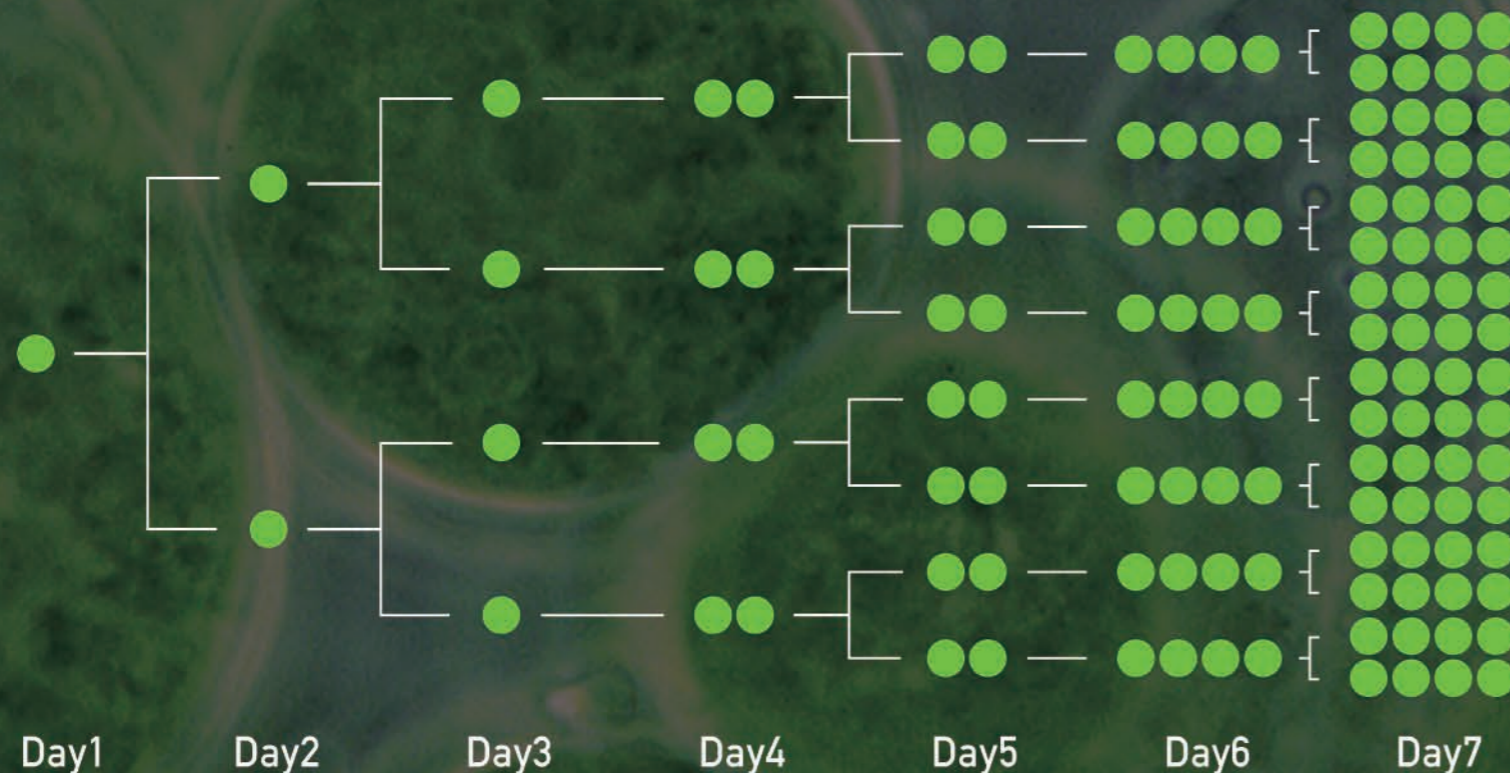
## More Oxygen with ALGAE

For Supplying 1.5L of Oxygen/day (human demands), you need 7.5 trees or 30L of Algae. Tree requires fertilized soil, amount of water and large environment, however Algae only require 30 Litter of water and much smaller environment for producing the same amount of Oxygen.



## ALGAE is Rapid Proliferating Organism

A single cell of Algae will rapidly multiply 64 within 1 week, and 8,192 within 2 weeks!



## ALGAE is Nutritious Food

- Protein
- Vitamin
- Mineral
- Amino Acid
- DHA



Algae include plenty of Protein, Vitamin, Mineral, Amino Acid and DHA.

## Protein Proportion



50%



20%

Algae contains amount of protein almost 50% of its whole body.

## ALGAE is Bio-petroleum



The organic oil is for generating electricity in the future.

## ALGAE for Relaxation

Green is simply a color of Earth that all crews are missing on Mars.




## ALOXYGEN ~ Earth Homing Your Mars Life ~

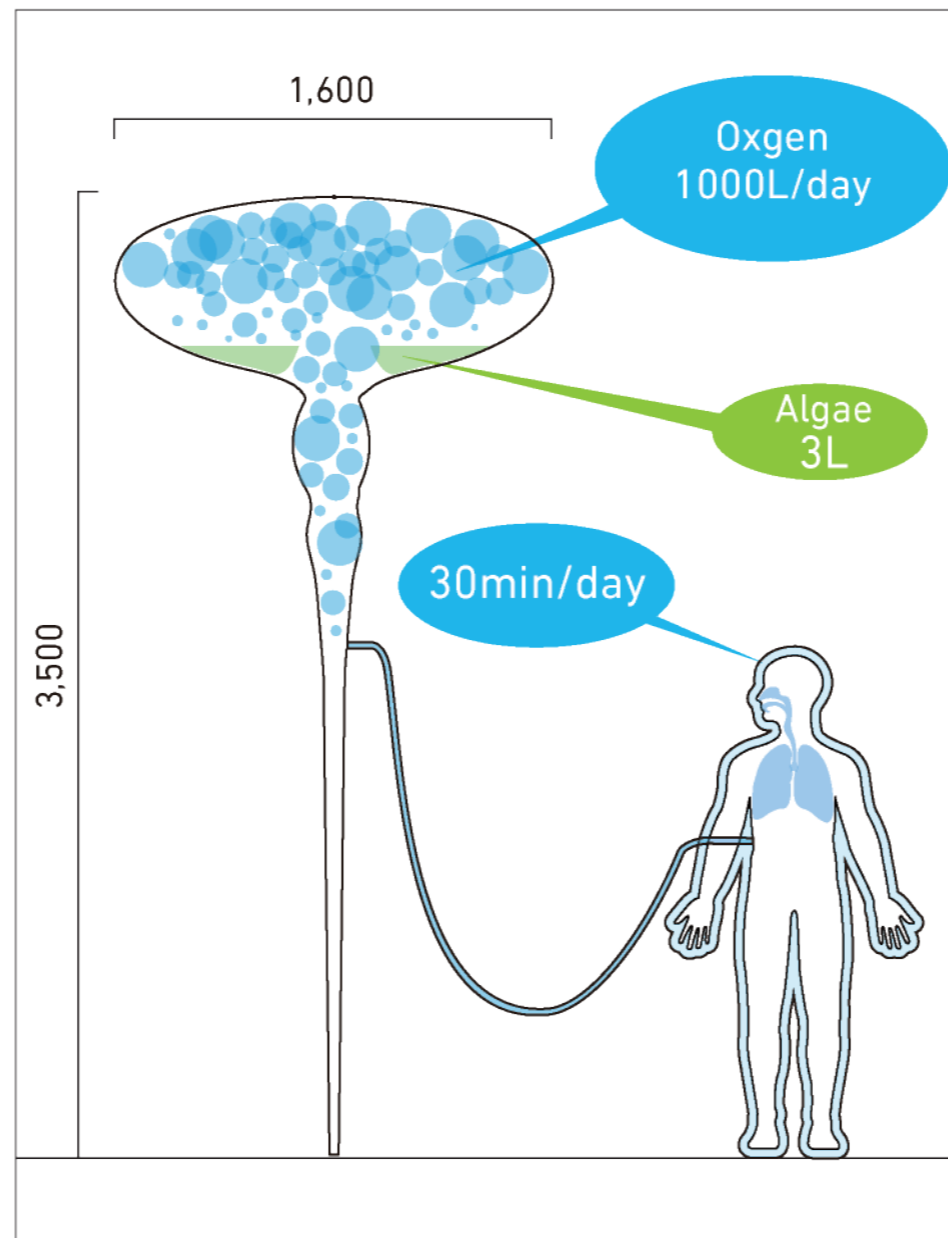
### MARS ORGANIC AIR FARMING

ALOXYGEN is an air server for Mars settler. It provides Earth quality natural Organic fresh air for vitalizing people physically and mentally in extreme environment on Mars. ALOXYGEN contains Algae incubator that generate Organic Oxygen by its photosynthesis.

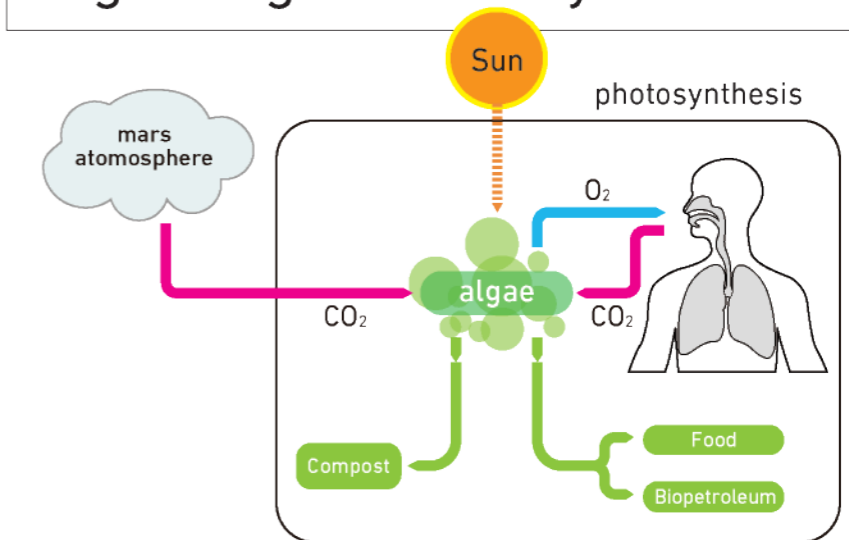
The product is not only producing Oxygen, but also nutritious food, bio-petroleum and compost for soiling. ALOXYGEN invites human to complete algae micro eco system for gaining Carbon Dioxide from human breath. And this eco system is going to be developed on terra-forming program in the future.

Our trained crew, Dr. Alg Aethome, engineer and biologist, is one of the 7 crews in Mission4 this time. His mission is to complete first phase of ALOXYGEN installation before Christmas in 2046.

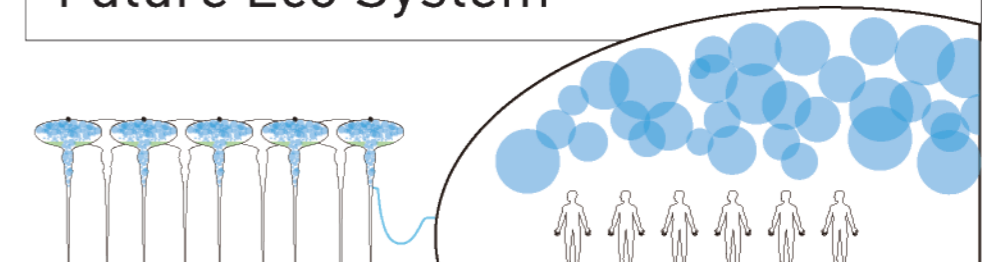
Once ALOXYGEN is installed, other crew members and settler can own their own ALOXYGEN, therefore you can name them, maintain them, take care of them, love their growth, and enjoy your own fresh air. Rising your ALOXYGEN with temperature control, circulation and feeding is one of the important activity that simply connect you to "a life of Earth" that keep you healthy as human being.



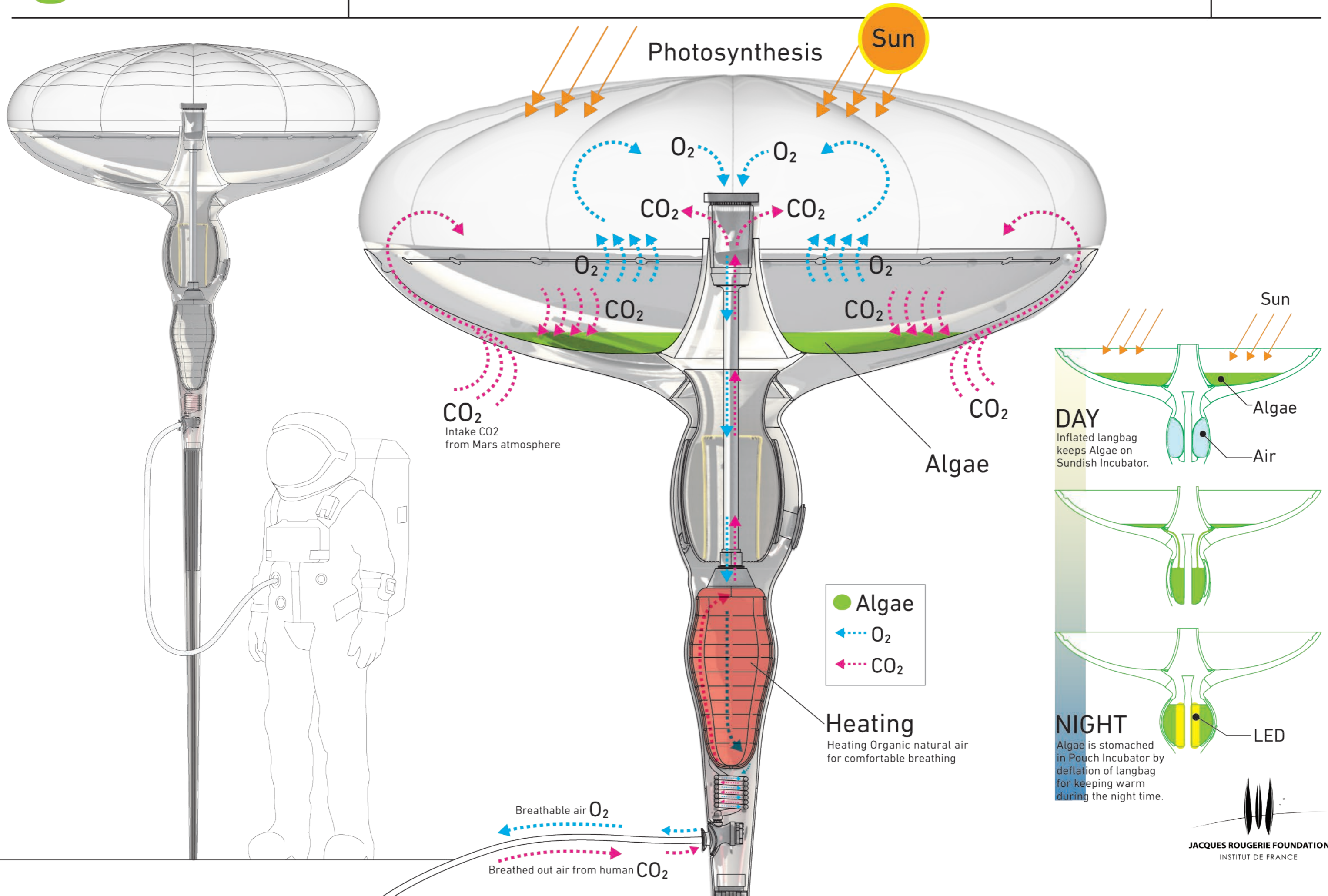
## Algae Organic Eco System

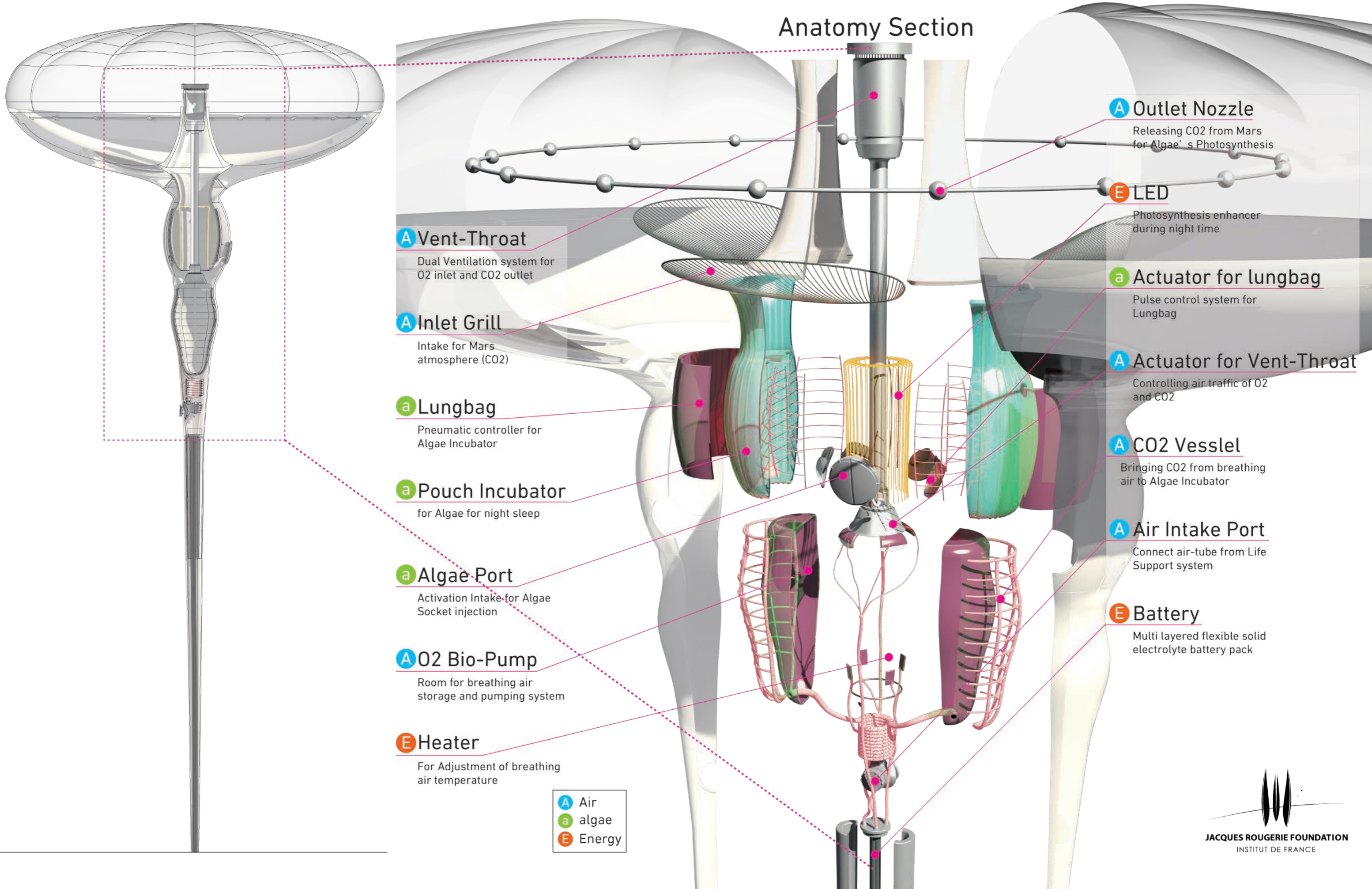


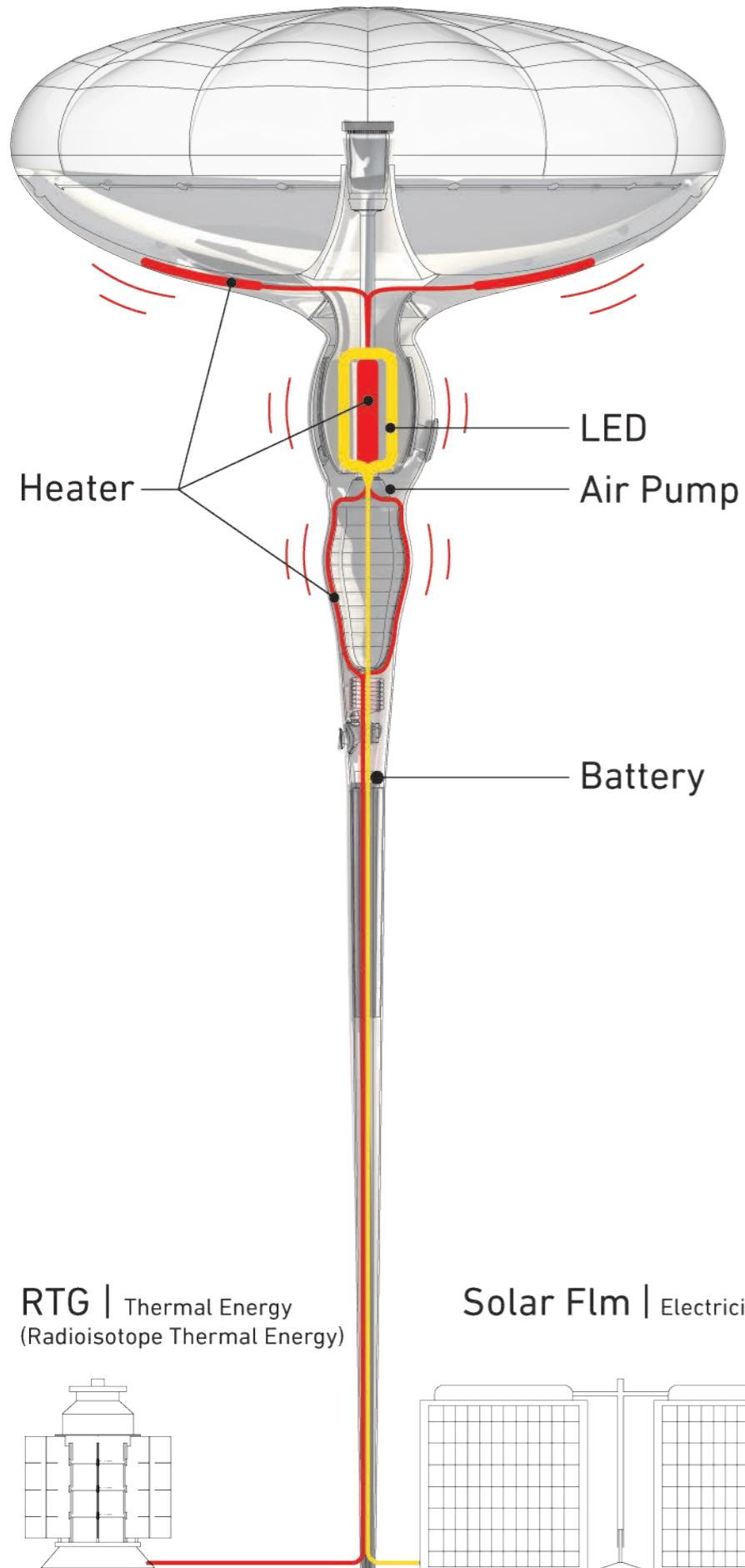
## Future Eco System



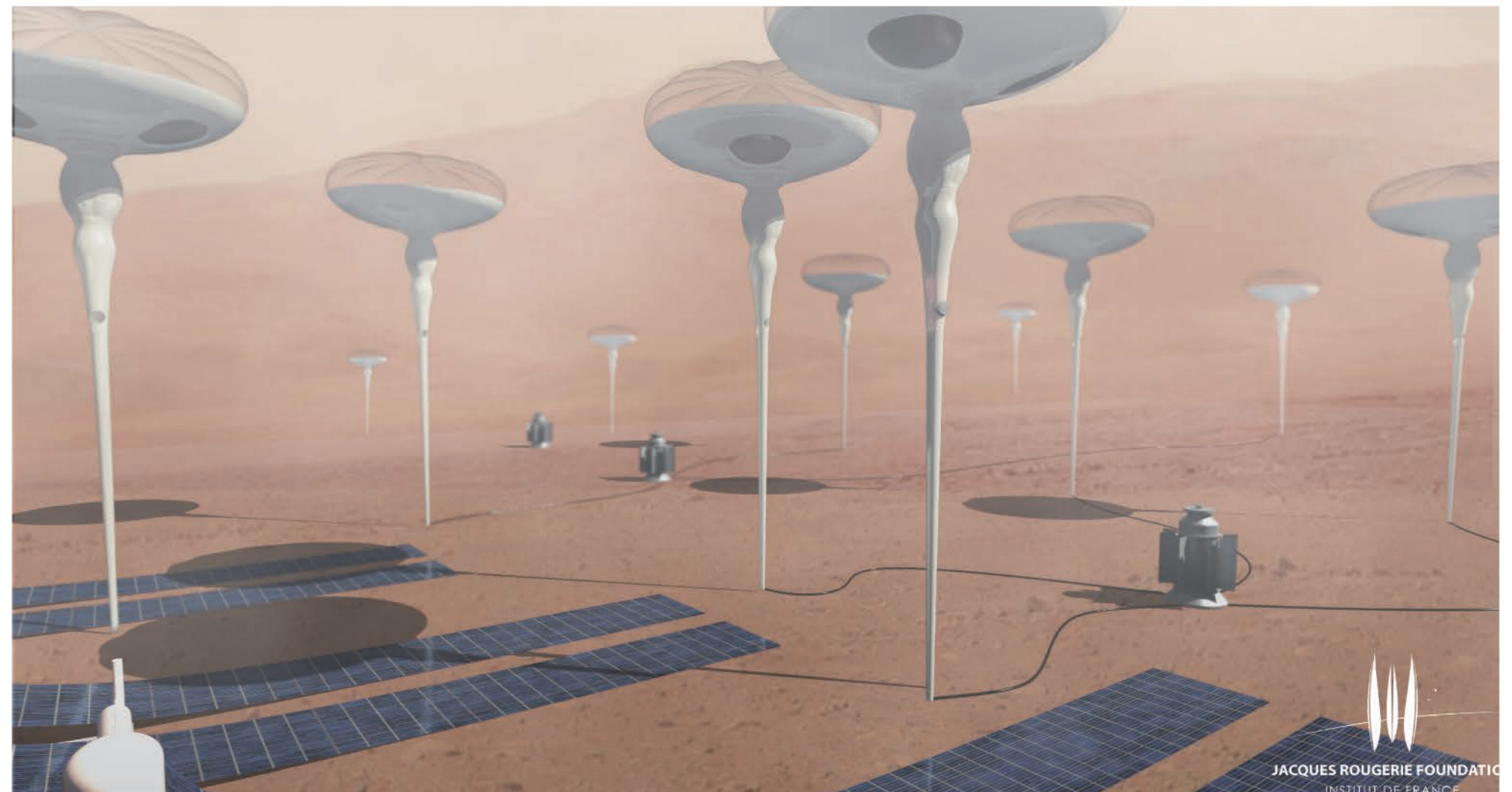
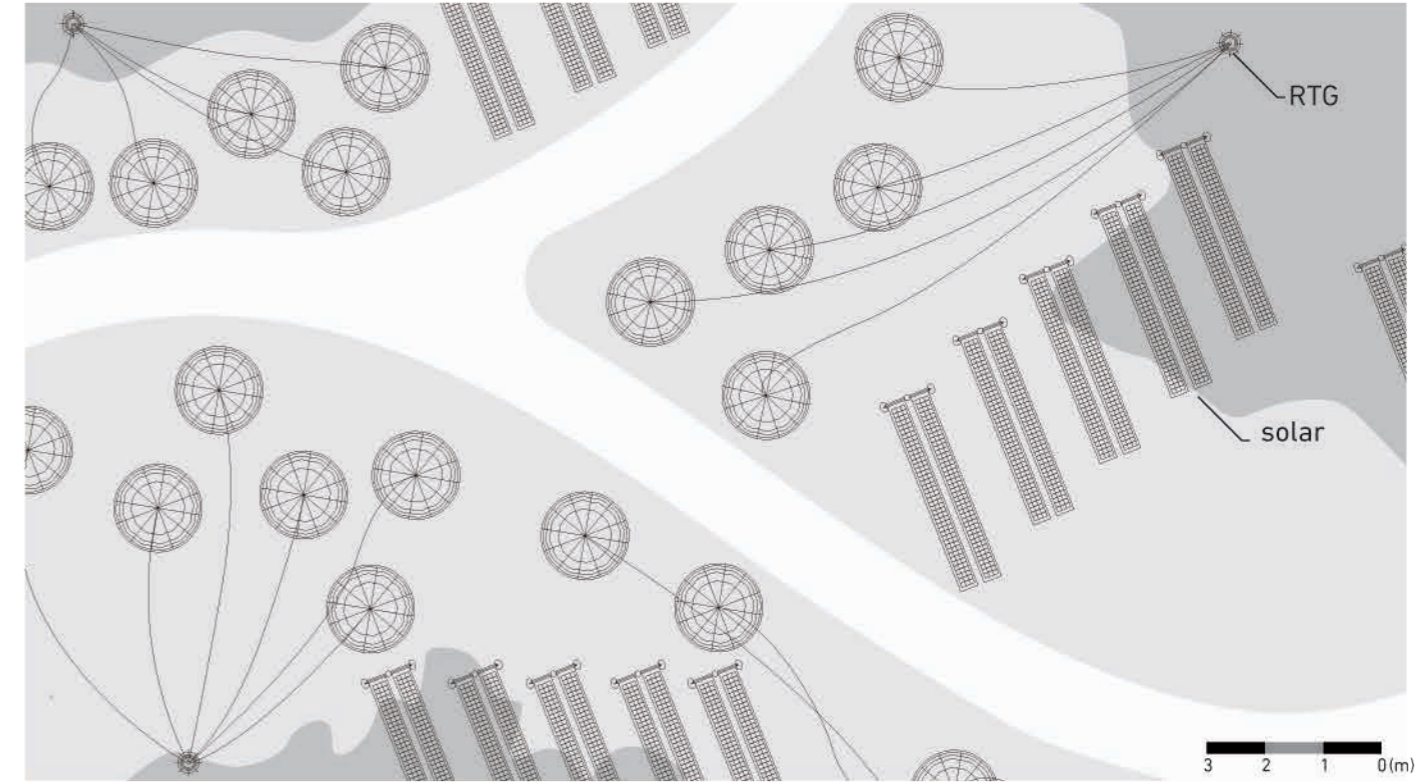
In 2088  
1,300 ALOXYGENs support  
pressurized Biosphere Dome.

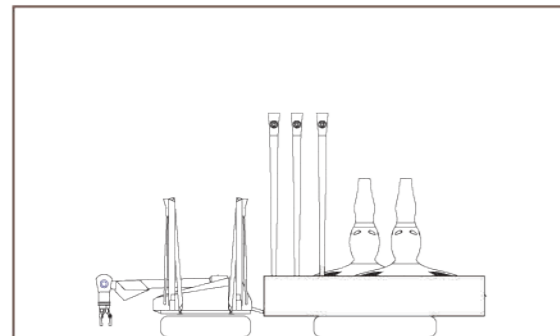




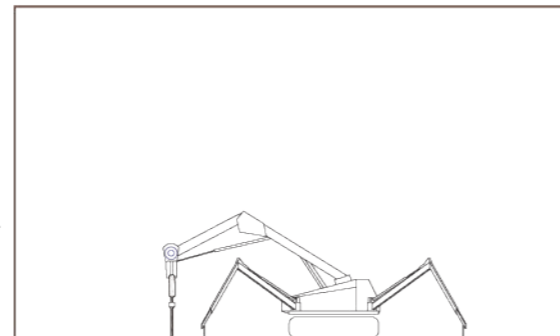


ALOXYGEN requires small amount of electricity for making pulse to activate the whole system, however it requires large amount of thermal energy, because of keeping ideal temperature in cold weather on Mars. RTG (Radioisotope Thermoelectric Generator) provides 3500W ~ 4000W, for 25~30 ALOXYGENs at the same time. Number of solar film will generate 80kW for the first installation.

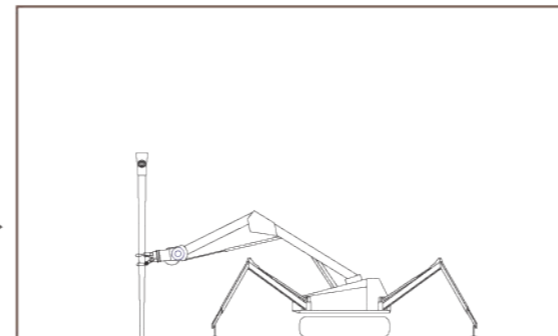




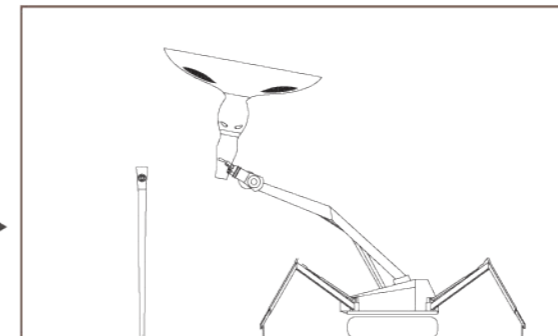
1: TRANSPORTATION: Carrying ALOXYGEN to planting site by Spider construction robot.



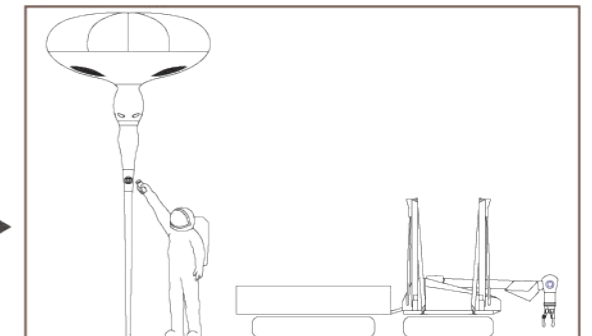
2: GROUNDING: Boring firm ground in the depth of 1500m.



3: CONSTRUCTION1: Positioning Main Mast vertically into the ground hole and strengthen the base.



4: CONSTRUCTION2: Attaching Incubator unit on top of the Main Mast.



5: ACTIVATION: Inject the Algae Socket into the body and defrost and activate photosynthesis.





