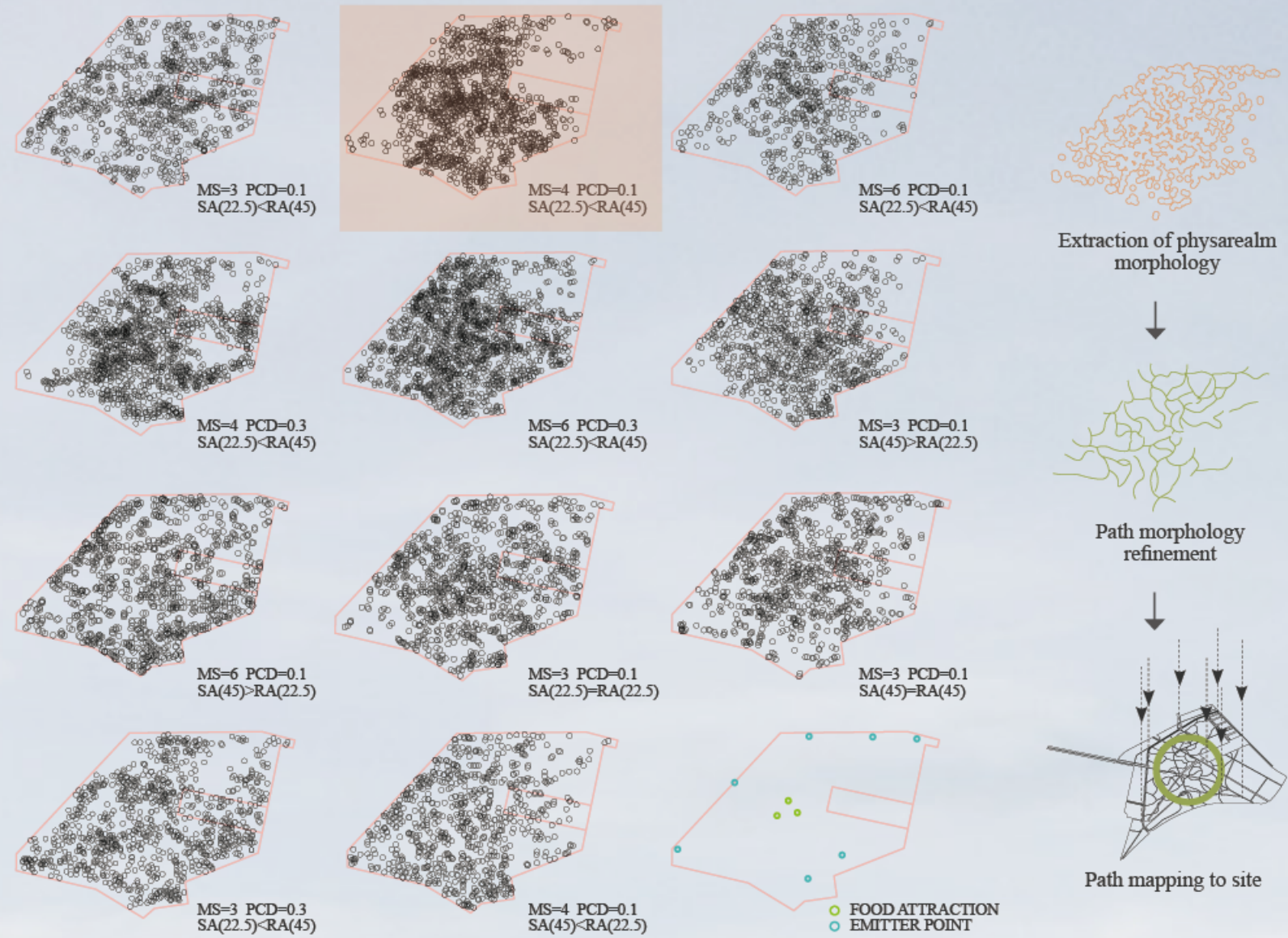# ROAD SYSTEM OPTIMIZATION DEDUCTION BASED ON PHYSAREALM ALGORITHM

The overall road value is based on the Physarealm slime mold algorithm to achieve autonomy. In the value, set the central vertical agricultural building and the main entrance and exit of the site as the food attraction point (Food attraction) and the launch point (Emitter Point) respectively, and use the life dispersion time of 30s to collect and simulate the shape of the flow of people activities on the site block. .

QUANTIFICATION
Food attraction(FA)=7
Population of agents(P)=1500
Time(T)=30s

VARIABLES
Max speed(MS)=3、4、6
Possibility of changing direction(PCD)=0.1、0.3
Sensor setting(SA&RA)=22.5、45

MS=3 PCD=0.1
SA(22.5)<RA(45)

MS=4 PCD=0.1
SA(22.5)<RA(45)

MS=6 PCD=0.1
SA(22.5)<RA(45)

MS=4 PCD=0.3
SA(22.5)<RA(45)

MS=6 PCD=0.3
SA(22.5)<RA(45)

MS=3 PCD=0.1
SA(45)>RA(22.5)

MS=6 PCD=0.1
SA(45)>RA(22.5)

MS=3 PCD=0.1
SA(22.5)=RA(22.5)

MS=3 PCD=0.1
SA(45)=RA(45)

MS=3 PCD=0.3
SA(22.5)<RA(45)

MS=4 PCD=0.1
SA(45)<RA(22.5)

○ FOOD ATTRACTION
○ EMITTER POINT

Extraction of physarealm morphology

↓

Path morphology refinement

↓

Path mapping to site

STRUCTURAL SCENES

1.Vertical farm

2.scenery platform

3.Biological protection platform

4.Bicycle station

5.Rest station

6.Children's entertainment

7.lecture center

8.Product interaction

↑32°C+

Due to the difference in temperature and the type of activity, the blades of each structure are set to be openable and closable to cope with different climatic conditions.
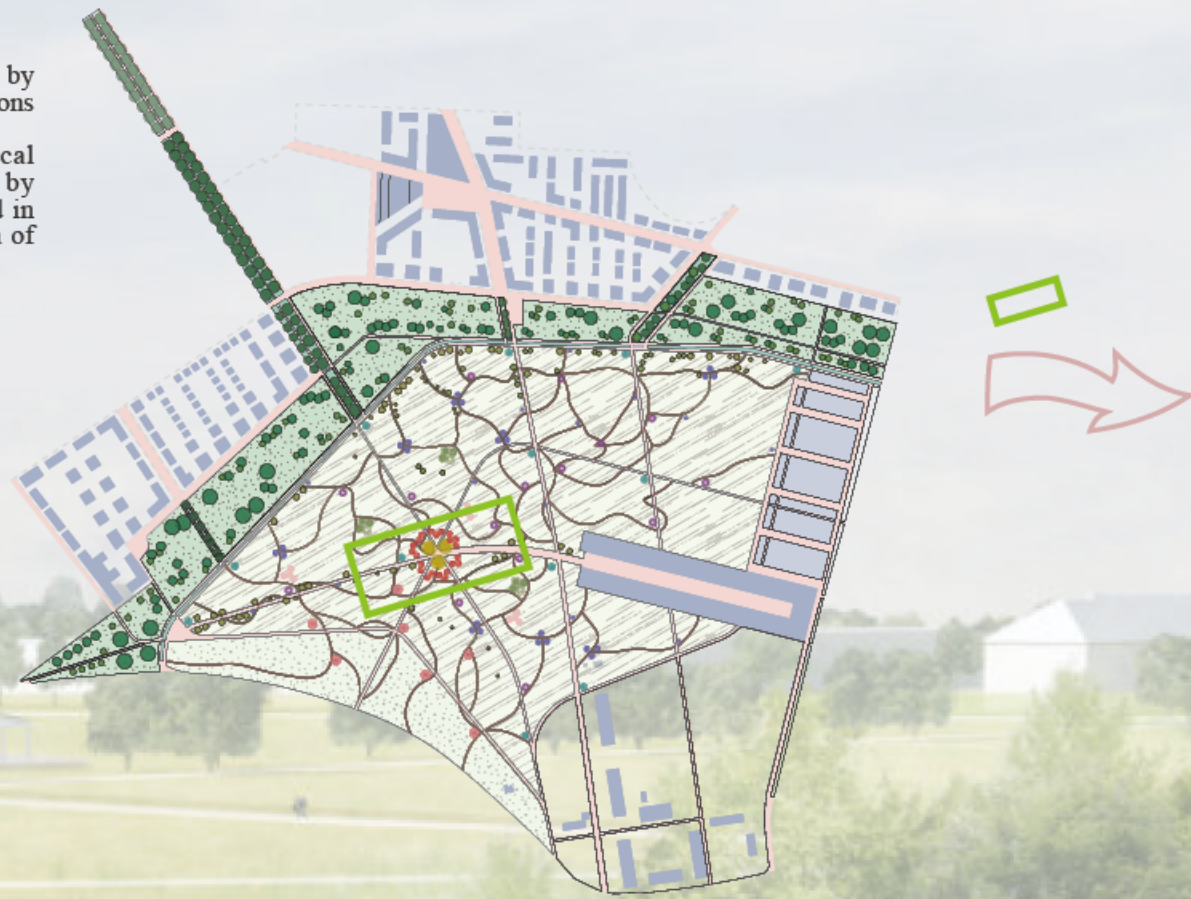
FUNCTION POINT LAYOUT

The unit body is divided into eight types of units by the type of activity to distribute at the node positions of the tertiary road.
In addition to functionally satisfying the local residents, the various units are surrounded by origami in form, and solar panels are arranged in part of the origami area to realize the function of energy conversion.

Legends

1.Vertical farm
2.scenery platform
3.Biological protection platform
4.Bicycle station
5.Rest station
6.Children's entertainment
7.lecture center
8.Product interaction
9.original buildings

AERIAL VIEW (PART)

The space is assembled through modules according to the needs of the type of activities, and the foldable solar panels are used as the basic unit to attach to different modules to ensure certain solar energy utilization in the site.
The foldable solar panels are distributed in different parts of the building according to the foldability of the 12 deformation, so that the overall module can exist across urban and residential modules.