TEAM
SCUTxPOLITO
SDC2018

INTRODUCTION

INTRODUCTION OF SD

The Solar Decathlon is a solar building scientific competition sponsored by the U.S. Department of energy and participated by the global top universities.

Since the first Solar Decathlon held in Washington DC, it has developed to Europe, the Middle East and other places. Solar Decathlon is called the Olympic Games of the green building and would be held every two years.

The whole Competition is evaluated in the actual construction and is divided into ten contests, so it is named as The Solar Decathlon. Since 2002, the competition was held successfully in the United States, Europe, China and other places, attracting more than 100 universities around the world to participate, showing the world's latest energy technology and energy conservation technology. It has been supported by the governments, enterprises and public around the world.

SOLAR DECATHLON CHINA
中国国际太阳能十项全能竞赛

SD AUDIENCE

IN TOTAL THE SD HAS RECEIVED:

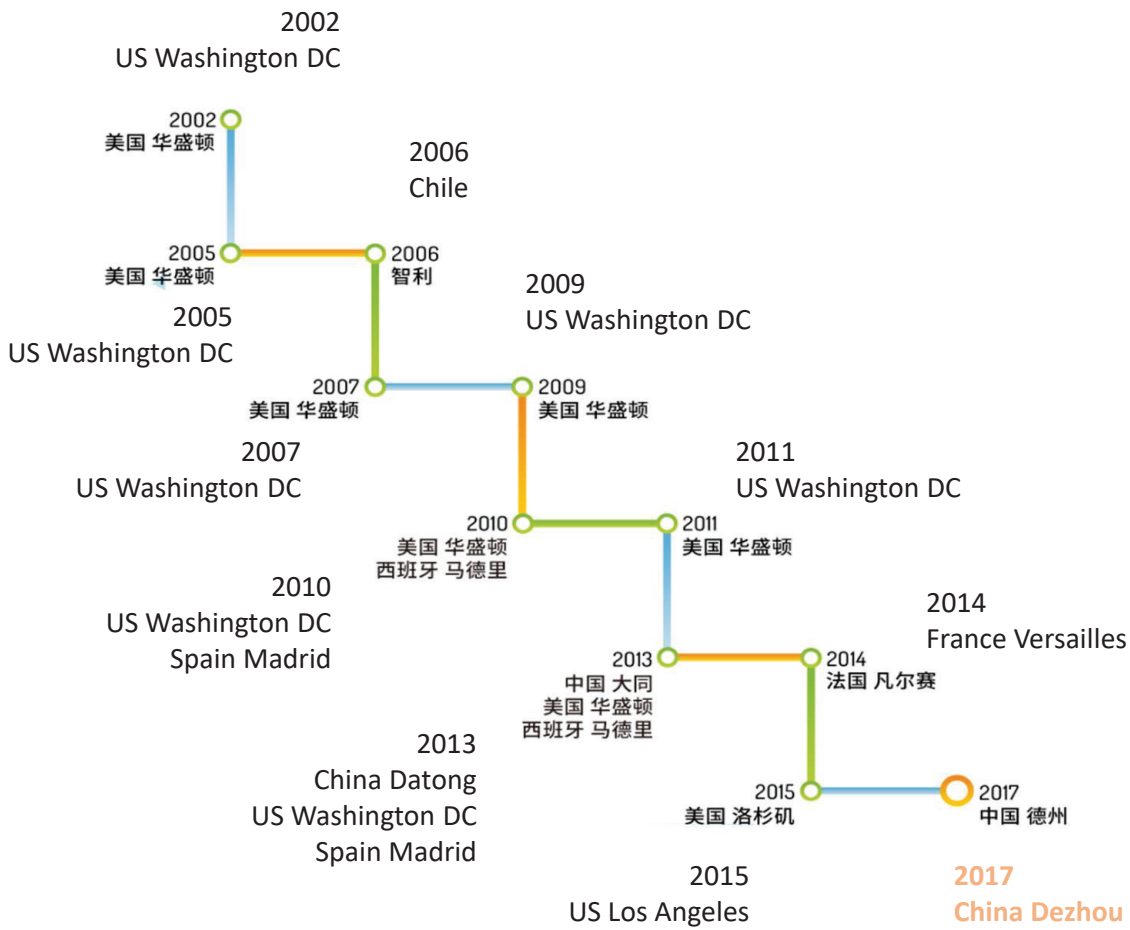
_ more than 6000 corporates sponsorship

_ more than 100 government departments

_ professional organisations support

_ 3.000.000 people has attended the competition as audience

_ media communication has reached 300.000.000 an audience



TEAM
SCUTxPOLITO
SDC2018

INTRODUCTION OF SD

Solar Decathlon China is sponsored by the Chinese Department of energy and U.S. Department of energy, jointly organised by Chinese Department of finance and Department of housing and urban-rural development, supported by CYL Central School Department and undertaken by the Peking University.

Teams in the competition will design, build and run a highly efficient, energy-efficient, attractive solar house. Organisers hope to promote the development of green building, enhance people's awareness of environmental protection and promote innovation and development of related technologies and commercialization through the competition.

"太阳能十项全能竞赛"合作协议谅解备忘录的签署现场

signed the Solar Decathlon competition cooperation agreement in Washington

SDC2013 Team SCUT and their house

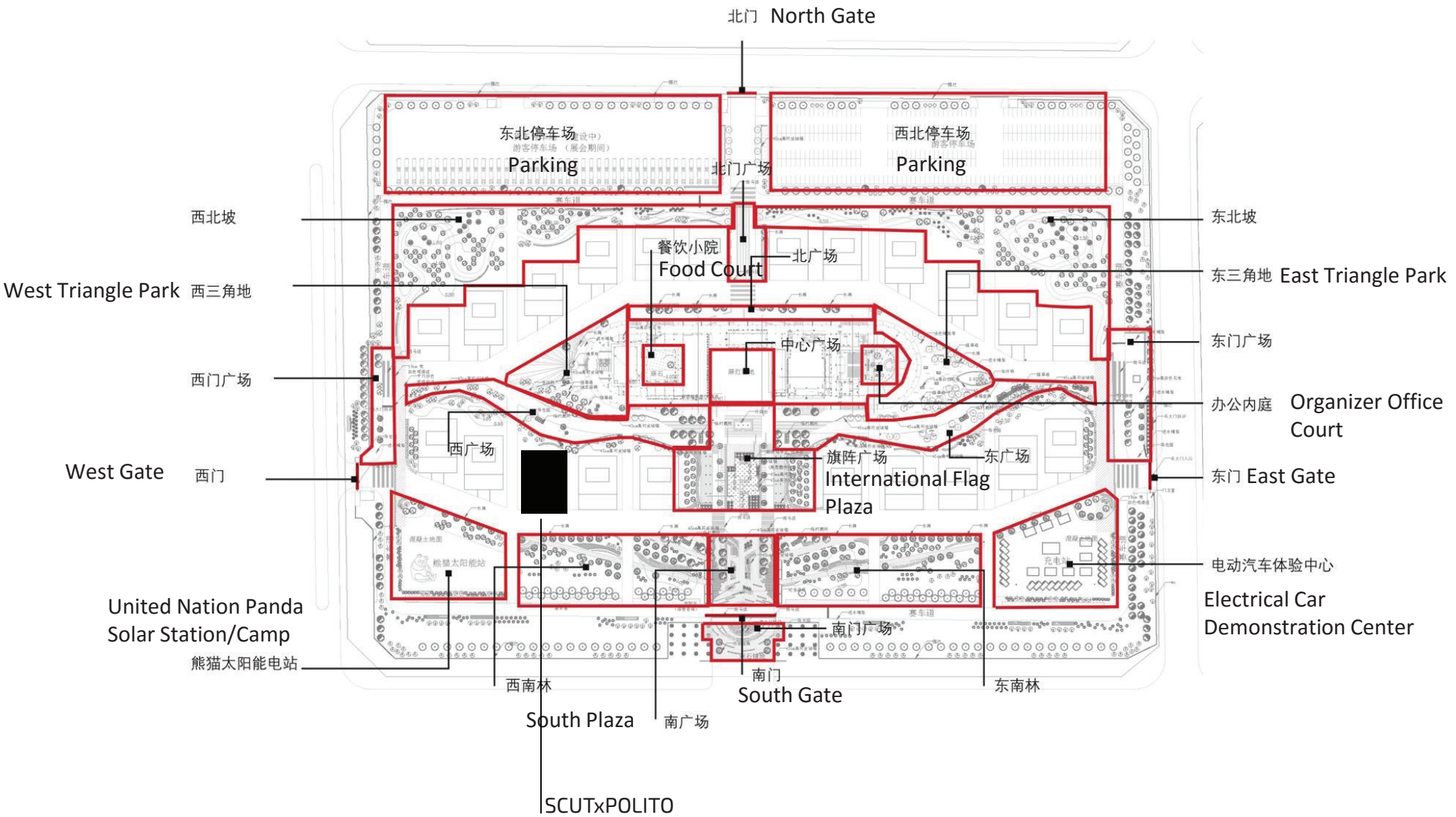
NOTE: In January of 2011 Peking University and U.S. Department of energy signed the Solar Decathlon competition cooperation agreement in Washington, introducing this world's highest level of solar energy application competition into China for the first time. On January 19, 2011, President Obama and President Hu Jintao met at the White House, talking about the first China-US energy cooperation project. A cooperation signed by President Hu Jintao during his state visit to the United States in 2011 that China would host the future Solar Decathlon competition.

WHERE IT WILL BE

The team of the Politecnico di Torino took part in the competition together with the university SCUT (South China University of Technology) in Guangzhou.

The Solar Decathlon China 2018 will take place in the city of Dezhou, famous for being a "green city" of China located in the province of Shandong.

MASTERPLAN DEZHOU _ SOLAR DECATHLON COMPETITION



TEAM
SCUTxPOLITO
SDC2018

MASTERPLAN DEZHOU _ SOLAR DECATHLON COMPETITION

TEAM
SCUTxPOLITO
SDC2018

INSTRUCTOR OF TEAM SCUT-POLITO

Instructors come from the Polytechnic University of Turin, South China University of Technology`s school of architecture, civil and transportation and State Key Laboratory of Subtropical Building Science.

钟冠球
华南理工大学建筑学院，讲师

Zhong Guanqiu
Lecturer, School of Architecture SCUT

徐好好
华南理工大学建筑学院，讲师

XU Haohao
Lecturer, School of Architecture SCUT

张宇峰
华南理工大学建筑学院，教授

Zhang Yufeng
Professor, School of Architecture SCUT

孙一民
华南理工大学建筑学院院长
博导 教授

Sun Yimin
Executive Dean of School of Architecture, SCUT

王 静
华南理工大学建筑学院，博导 教授

Wang Jing
Professor, School of Architecture SCUT

肖毅强
华南理工大学建筑学院副院长
博导 教授

Xiao Yiqiang
Vice Dean of School of Architecture, SCUT
PHD Tutor, Professor

Michele Bonino
都灵理工大学建筑设计系，副教授

Michele Bonino
Associate Professor of DAD, Politecnico di Torino

Enrico Fabrizio
都灵大学建农林与食品科学系，助理教授

Enrico Fabrizio
Assistant professor DISAFA Politecnico di Torino

Mauro Berta
都灵理工大学建筑设计系，副教授

Mauro Berta
Assistant Professor,POLITO DAD Department of Architecture and Design

Marco Filippi
都灵理工大学副校长，学术委员会成员

Marco Filippi
Vice-rector, Member of the Academic Senate,POLITO

Matteo Robiglio
都灵理工大学建筑设计系，教授

Matteo Robiglio
Full Professor of DAD, Politecnico di Torino

Orio De Paoli
都灵理工大学建筑设计系，助理教授

Orio De Paoli
Confirmed Assistant Professor of DAD, Politecnico di Torino

Francesca Frassoldati
都灵理工大学建筑设计系，副教授

Francesca Frassoldati
Associate Professor of DAD, Politecnico di Torino

Valentina Serra

Associated Professor
DENERG-Dipartimento Energia
Politecnico di Torino

Edoardo Bruno
PhD researcher

TEAM SCUT-POLITO

SCUT _ CORE MEMBER

POLITO _ CORE MEMBER

TEAM
SCUTxPOLITO
SDC2018

2013 SDC SCUT

TEAM`S PERFORMANCE REVIEW

South China University of Technology team has spent over two years to build solar ecological residential house E-CONCAVE, and presented perfectly on the stage of Solar Decathlon China competition in 2013, won five first-place prizes including architectural design, marketing, comfort, home entertainment and others, one second-place prize and two third-place prizes. The final score won the silver medal winner. This is also the best performance of Chinese teams in the Solar Decathlon competition.

Photo of E-CONCAVE

Team SCUT won the second place in SDC2013

SDC2013 SCUT PREVIOUS COOPERATION

Organizer
主办方

中国 SD CHINA
国际太阳能十项全能竞赛

Top Sponsor
顶级赞助商

中国建筑第四工程局有限公司
CHINA CONSTRUCTION FOURTH ENGINEERING DIVISION CORP. LTD

Sponsors
赞助商

YOYU永裕
创造 由你而想

Schneider Electric

VELUX

三雄·极光照明

SILKROAD

GoldenStar
Garden Equipment

DUPONT

KELI

闽赛特
SUPER TECH

Bucalus 贝克洛

DAIKIN

Supporters
支持单位

亚热带建筑科学国家重点实验室
State Key Laboratory of Subtropical Building Science
South China University of Technology

华南理工大学建筑设计研究院
ARCHITECTURAL DESIGN RESEARCH INSTITUTE OF SCUT

Highlight of Competition

Market–oriented

- Double–layer building meeting the demand of Chinese market
- Energy balance assessment of new electric vehicle and charging pile
- Assessment of new energy storage

Greater influence

- 3–month exhibition period for public
- 10,000 + mw2 independent display area
- 9 theme weeks (low carbon industry, life...)
- 360 media campaigns
- Series Summits on SDC Low Carbon Development

Intelligent Low–carbon Park Entity

- Works entering the competition will be permanently retained in the arena
- Link the residential buildings, public buildings, electric piles, energy system together, and build China's first intelligent low–carbon park demonstration entity

Education and talent

- 1,000+ talents with investigation and research experience in actual projects
- Expert databases and intellectual support from nearly 50 international famous universities
- 22 Chinese and foreign joint teams, localization of international vision

Innovation and entrepreneurship

- Encourage universities make innovation under the guidance of the market demand
- Post SD operation

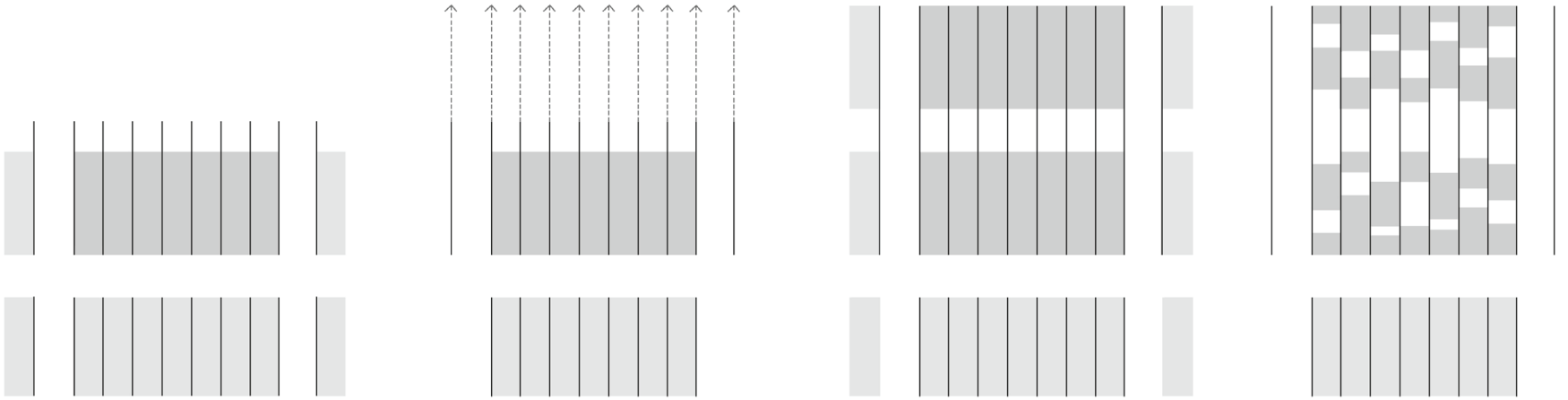
SDC later operation

- Establish "SD Chinese Low–carbon Development Alliance" which consists of strategic partners, government, colleges and universities, financial institutions and so on
- Take SD as a starting point; actually participate in China's new–type urbanization, beautiful villages and other entities

CONCEPT

URBAN SCHEME TYPOLOGY

CHINESE BAMBOO HOUSE RE-ELABORATION



FIRST COMPOSITION

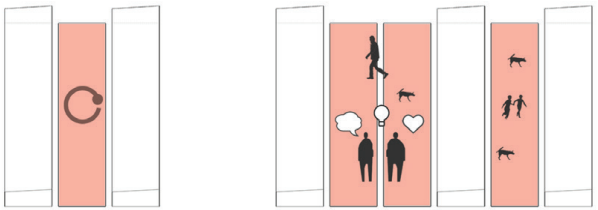
VERTICAL GROWTH

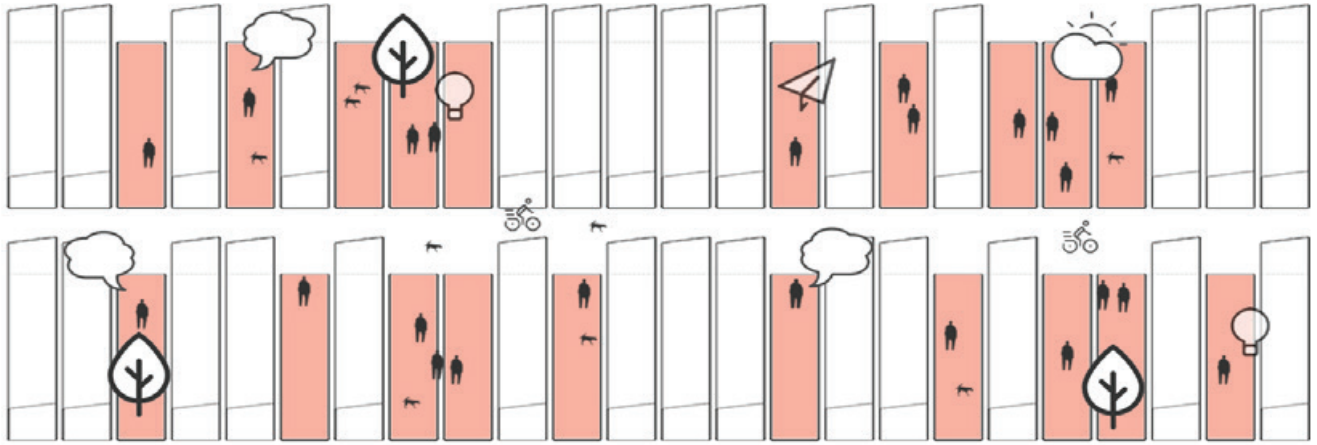
ADDING NEW UNITS

COURTYARD AND PATIOS

TEAM
SCUTxPOLITO
SDC2018

COMMUNITY ADAPTATION

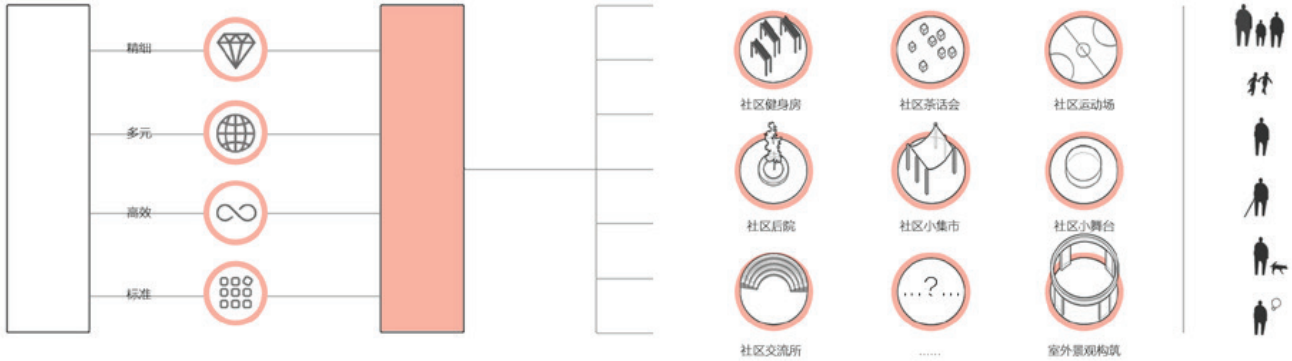




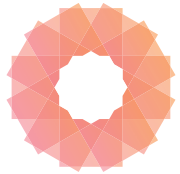
RESPONDING TO CONTEXT PROBLEMS:

_ Historical continuation of the local context

_ Flexible adaptation to new development area



PROJECT



TEAM
SCUTxPOLITO
SDC2018

LONG PLAN

SCUT X POLITO

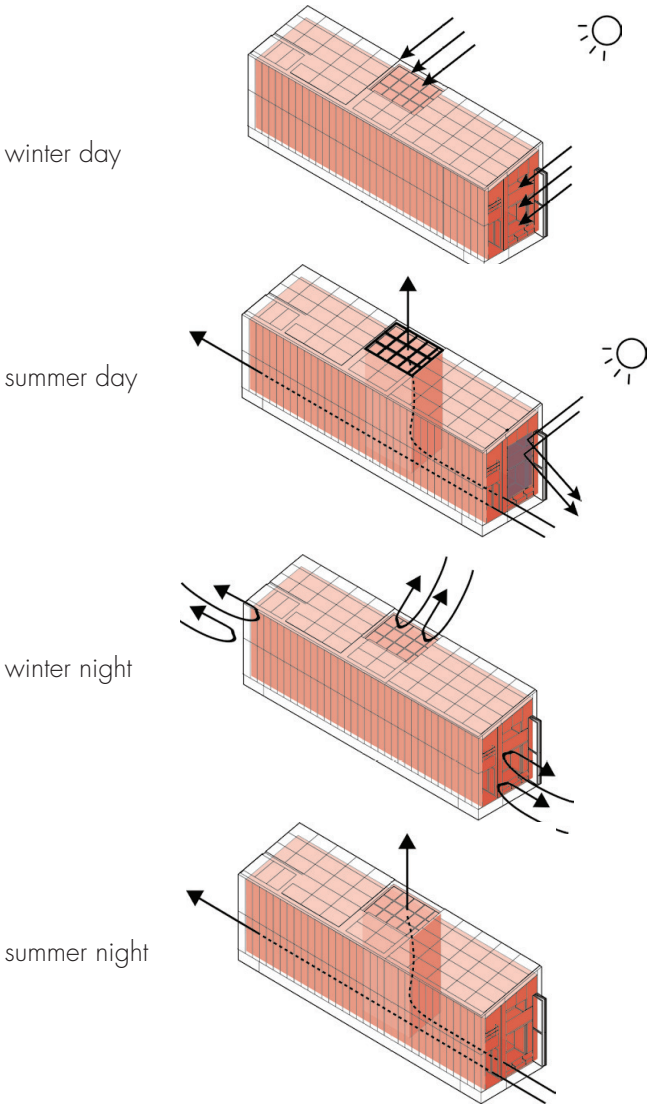
The collaboration between the South China University of Technology and Politecnico di Torino team takes the opportunity to participate in the SDC 2018 to respond to the energy sources and social issues caused by global urbanisation around the world, propose an innovative design of modern dwelling based on zero-energy consumption.

A design inspired from the traditional Lingnan dwelling – bamboo tube house and, using innovative technologies, designed a new type of urban residence: sustainable, self-efficient, flexible and that corresponds to the young generation needs.

First, taking into account as the population dynamics increases and the energy consumption in residential buildings which puts enormous pressure on global ecology.

Second, the development of urban housing today presents a series of pathological problems; the younger generation is under heavy housing employment pressure.

In addition, due to the traditional residential construction without preservation, the traditional context in modern development slowly falls apart. Basing on the detailed history and research of urban development, as well as the marketing plan, Team SCUT-POLITO took its way through the government and developers, city planning and detailed whole-scale design. Proposing a new type of long and narrow self-efficient residences that can solve problems of city energy shortage, urban diseases and respond to the requirements of young generation's housing, at the same time satisfying the context of traditional architecture and city cultural environment.



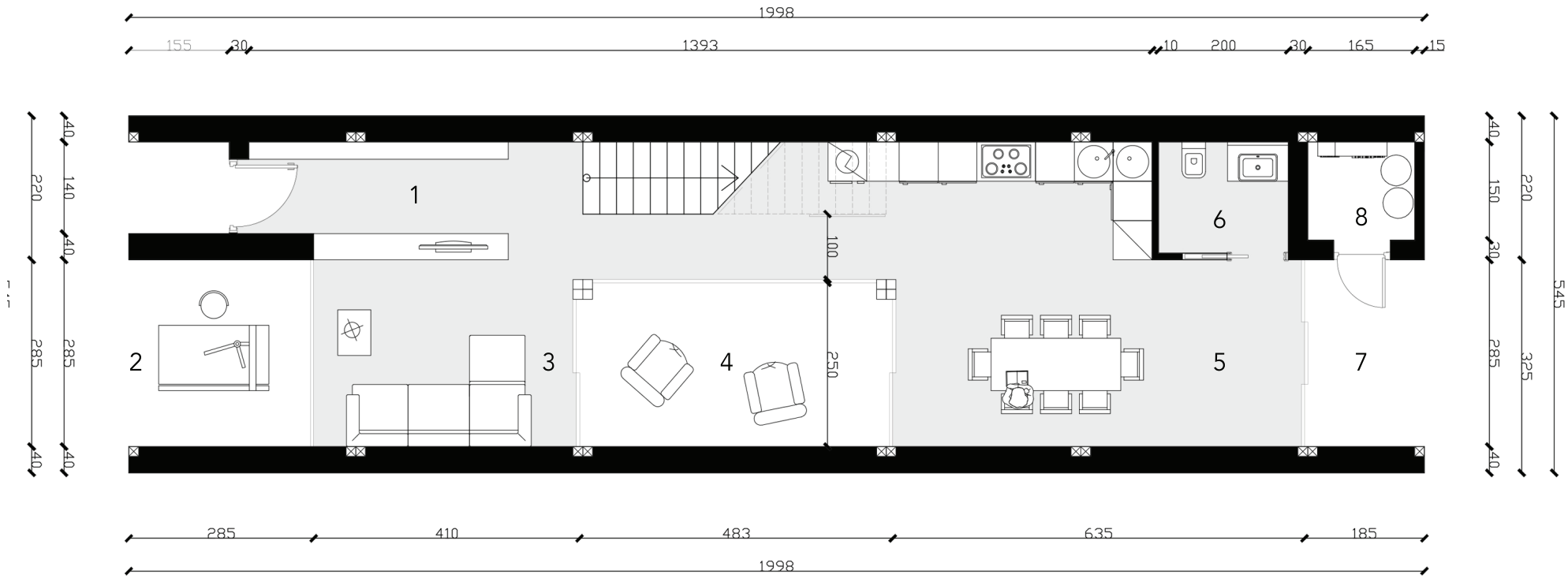
TEAM
SCUTxPOLITO
SDC2018

COMMUNITY INTEGRETION

HISTORICAL CONTEXT

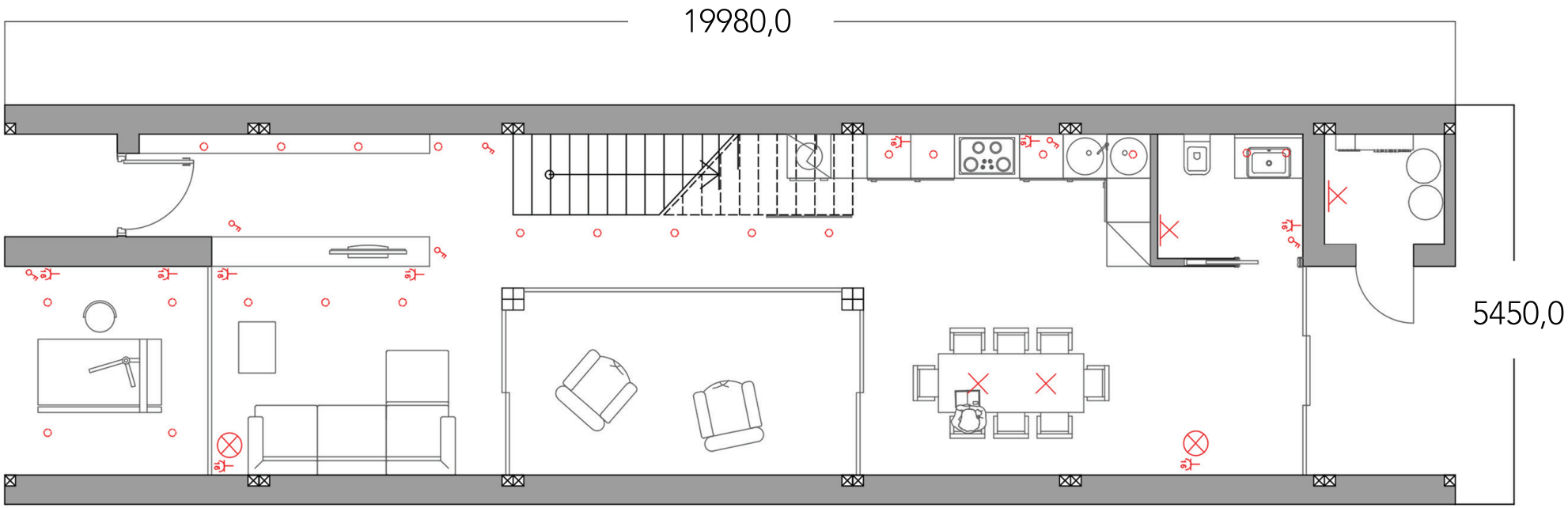
INTERIOR DESIGN

GROUND FLOOR PLAN



1. Corridor
2. Workingspace
3. Livingroom
4. Patio
5. Kitchen
6. Bathroom
7. Courtyard
8. Mechanical room

TEAM
SCUTxPOLITO
SDC2018



Legend

Wall light

Floor lamp

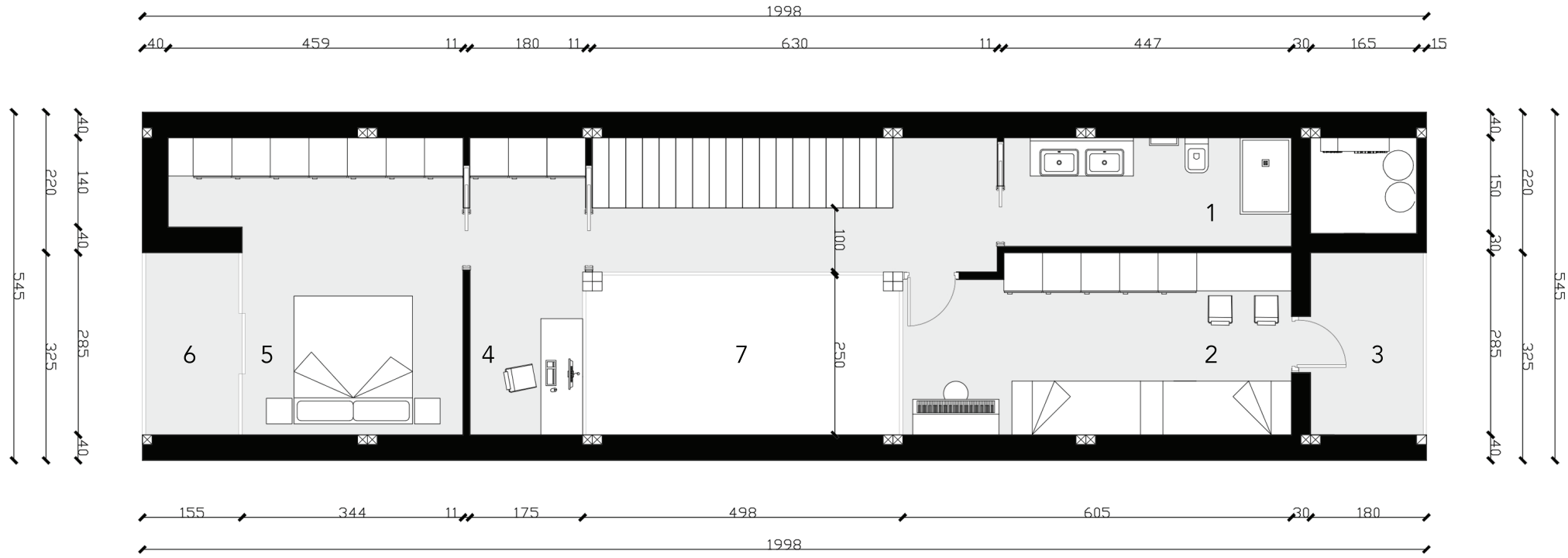
Spotlight

Switch

16 Wall socket

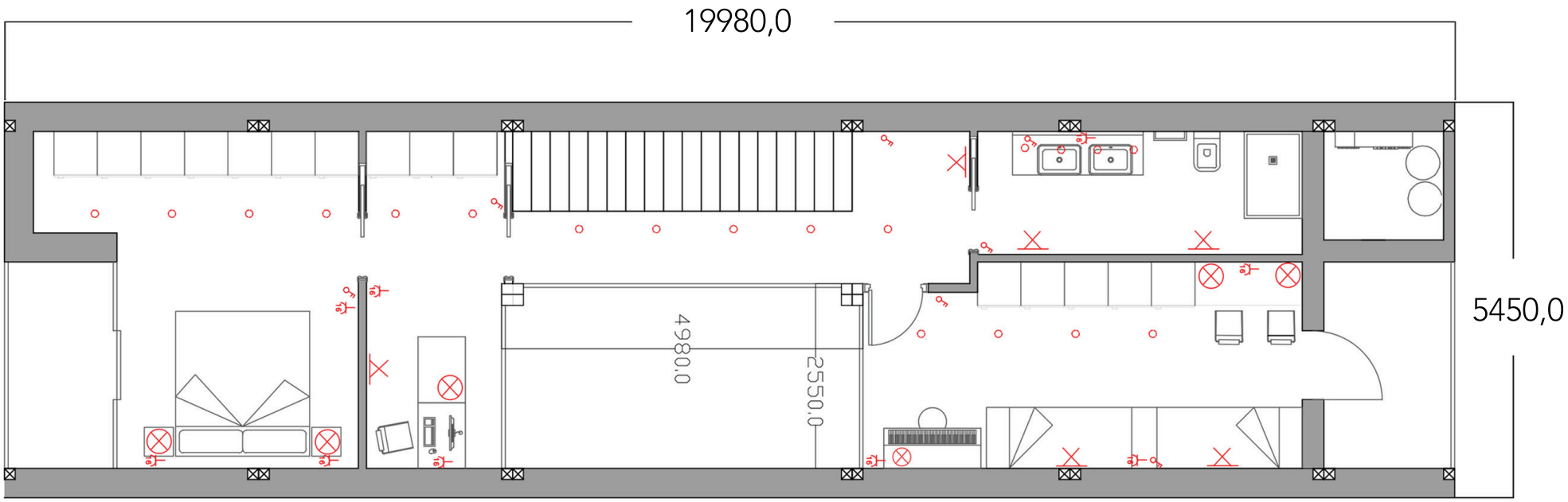
TEAM
SCUTxPOLITO
SDC2018

FIRST FLOOR PLAN



1. Bathroom
2. Children Room
3. Terrace
4. Studio
5. Main Bed Room
6. Terrace
7. Patio

TEAM
SCUTxPOLITO
SDC2018



Legend

Wall light

Floor lamp

Spotlight

Switch

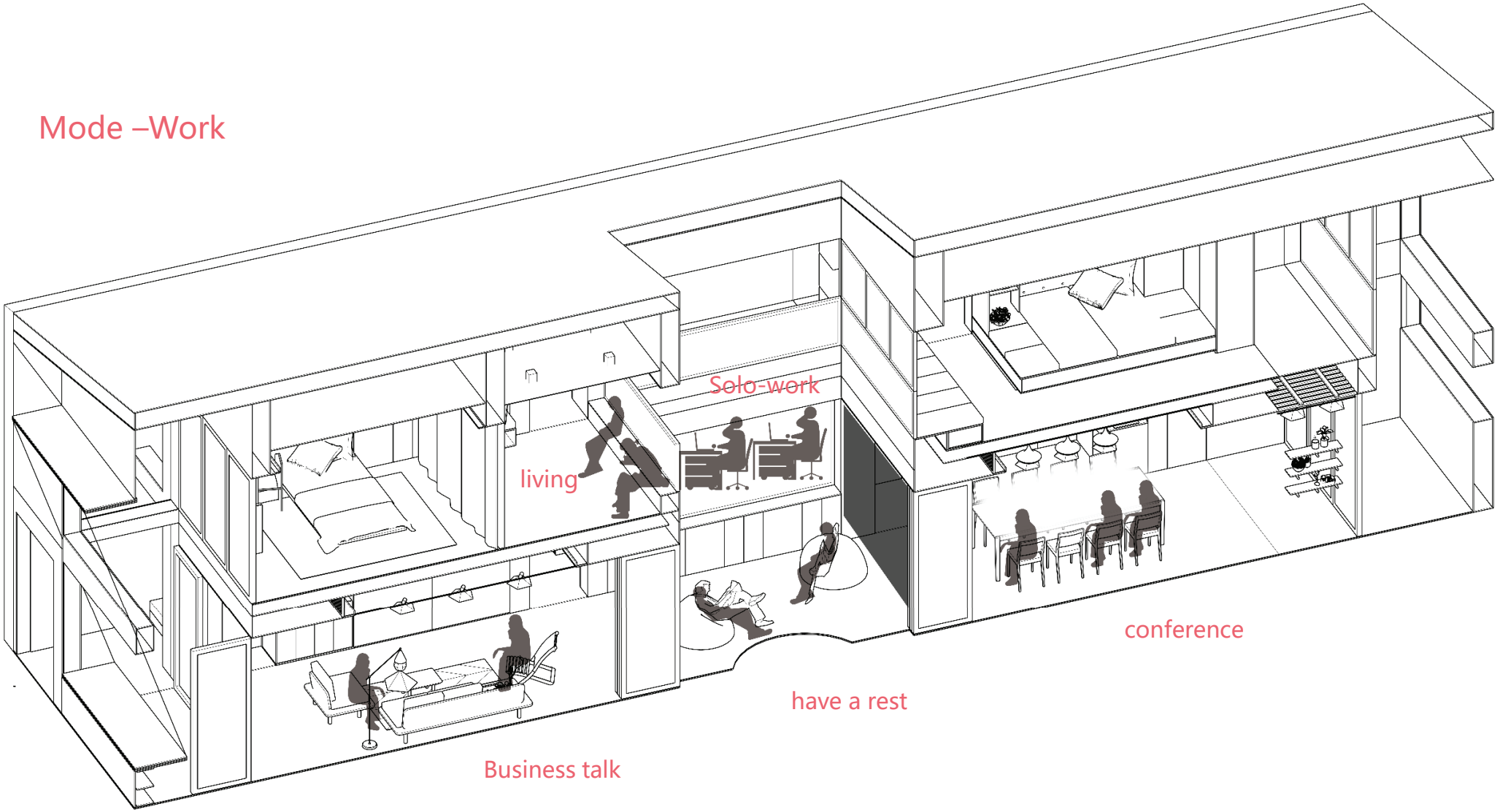
Wall socket

TEAM
SCUTxPOLITO
SDC2018

FINISHING MATERIAL

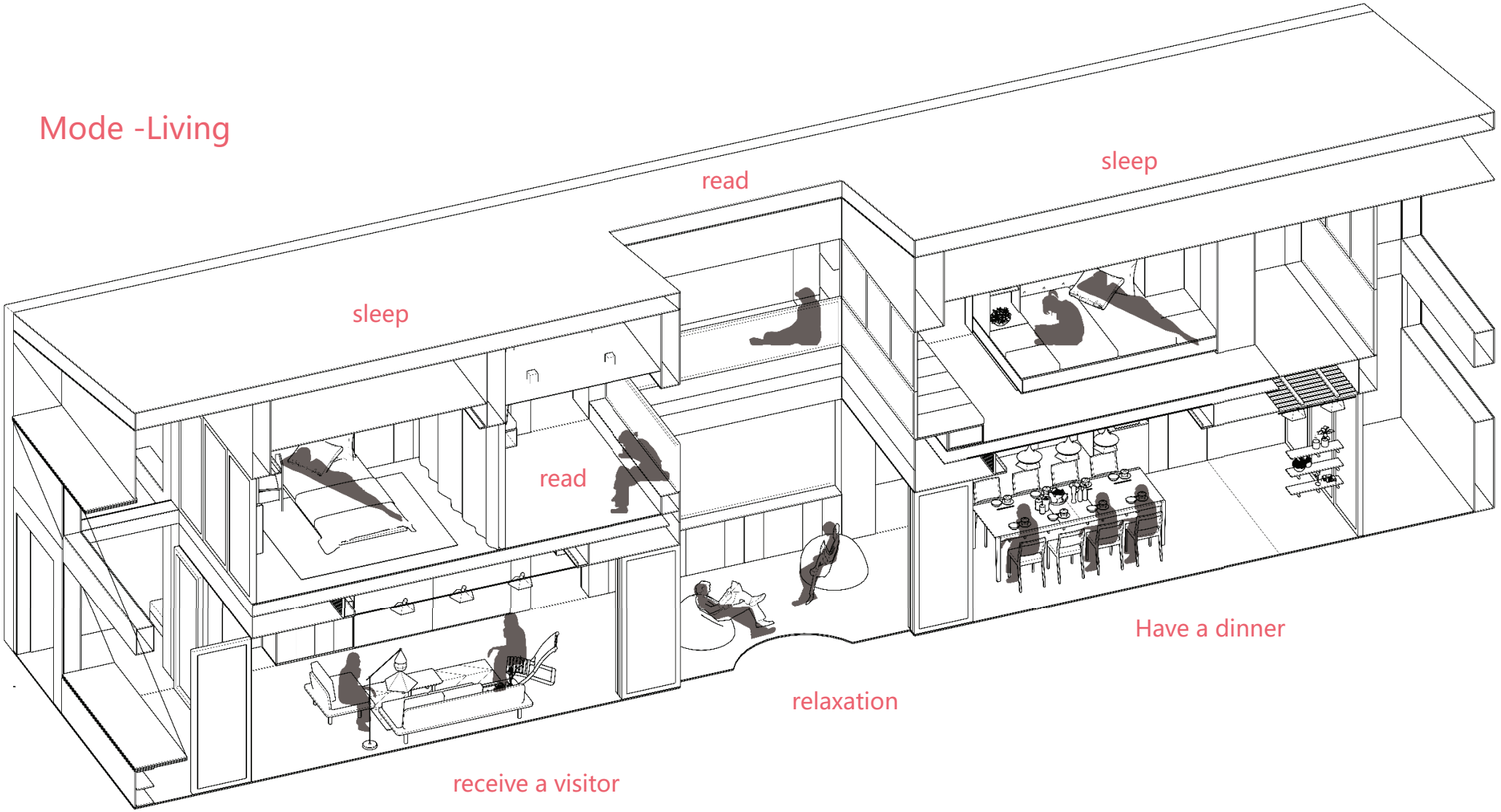
FLEXIBILITY OF SPACE AND FORNITURE

Mode –Work

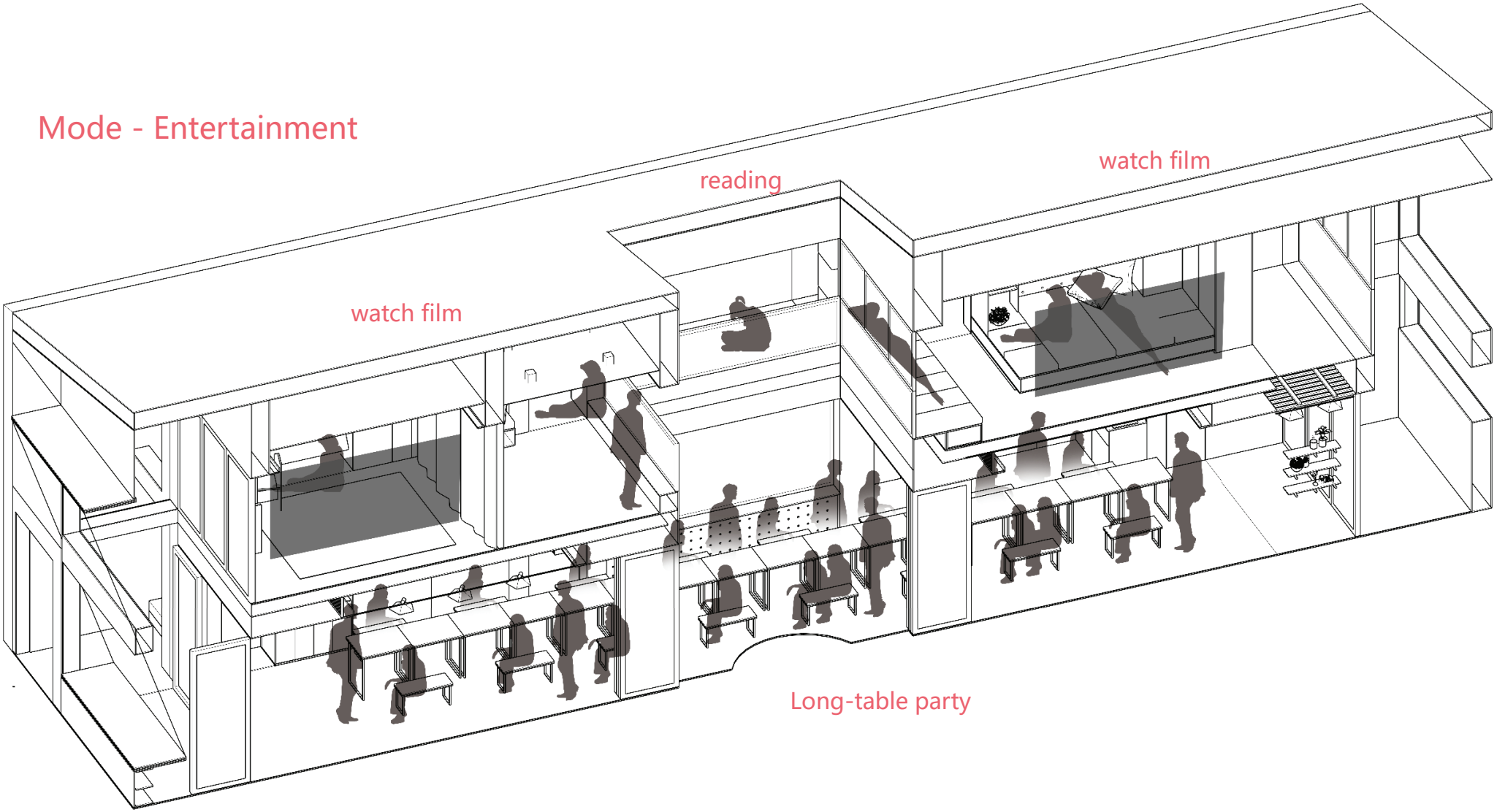


TEAM
SCUTxPOLITO
SDC2018

Mode -Living


read
sleep
sleep
read
Have a dinner
relaxation
receive a visitor

Mode - Entertainment



LIVING ROOM

KITCHEN

PATIO


Pumpkin Pie
SALT
EGGS
Pumpkin
Bake


Pumpkin Pie
SALT
EGGS
Pumpkin
Bake

OTHER USE

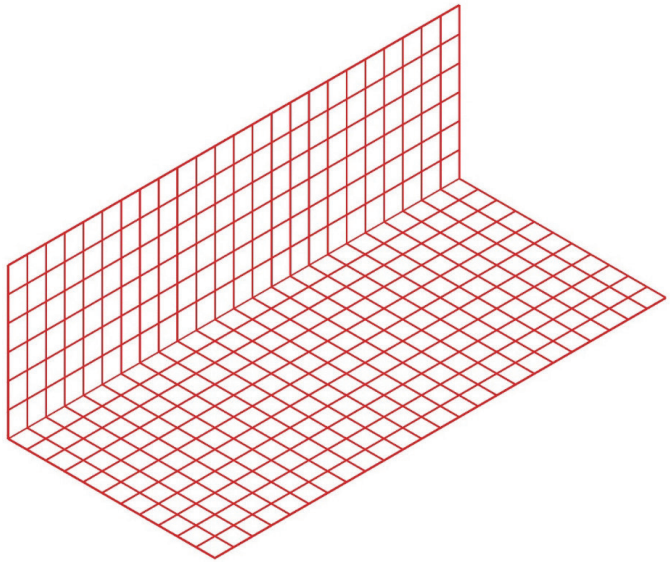

Pumpkin Pie
MIX TOGETHER:
1½ TEASPOONS PUMPKIN PIE SPICE
¾ CUP Sugar
½ TSP SALT
2 EGGS (BEATEN)
ONE CAN (15 OZ.) Pumpkin
1¼ CUPS MILK evaporated
POUR INTO PREPARED PIE CRUST...
Bake
Cherry PIE
BOWL

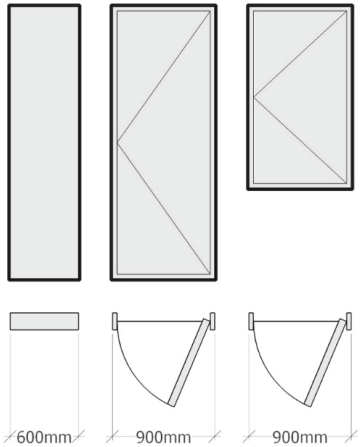
STUDIO

MAIN BEDROOM

CHILDREN ROOM

OTHER USE



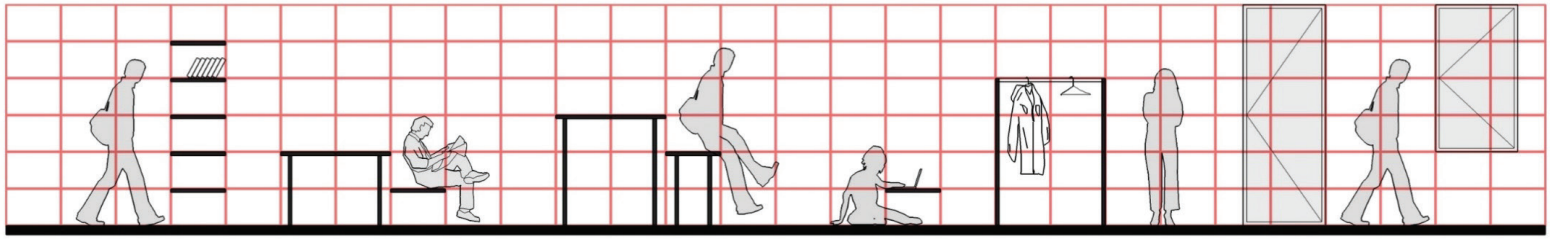


Plan 300*300

According to the size of
door/window/decoration material

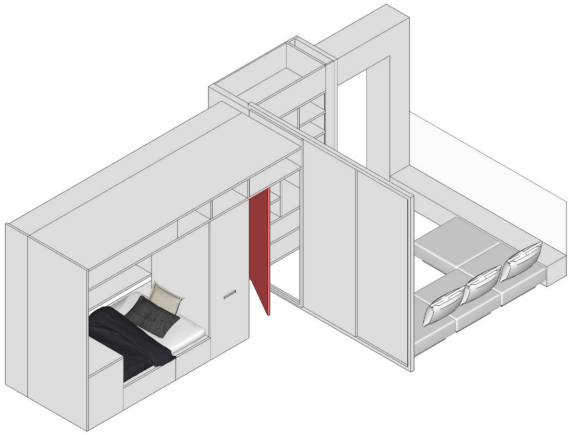
Height 400

According to people' s use

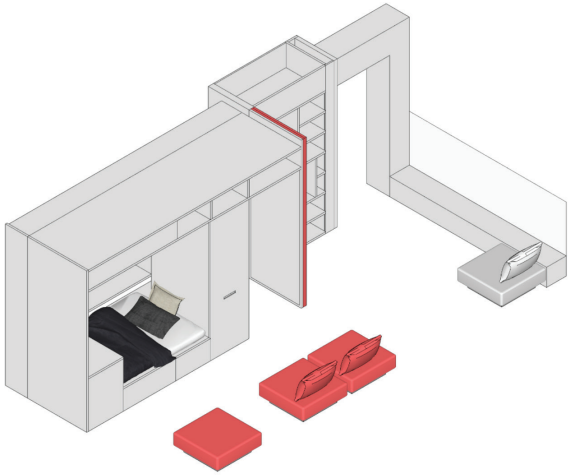


FLEXIBLE FURNITURE

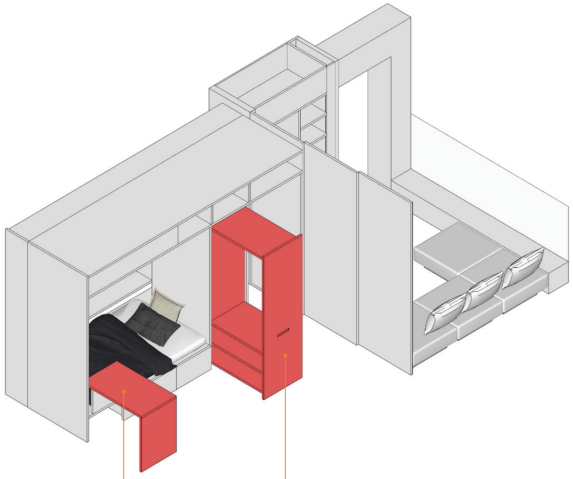
TEAM
SCUTxPOLITO
SDC2018

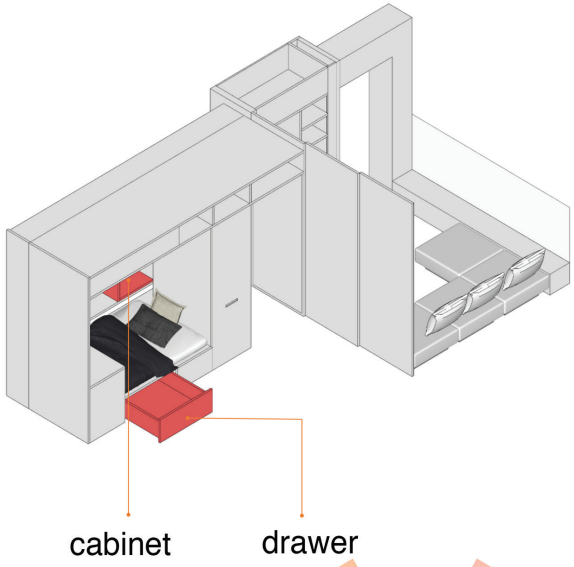


CLOSE



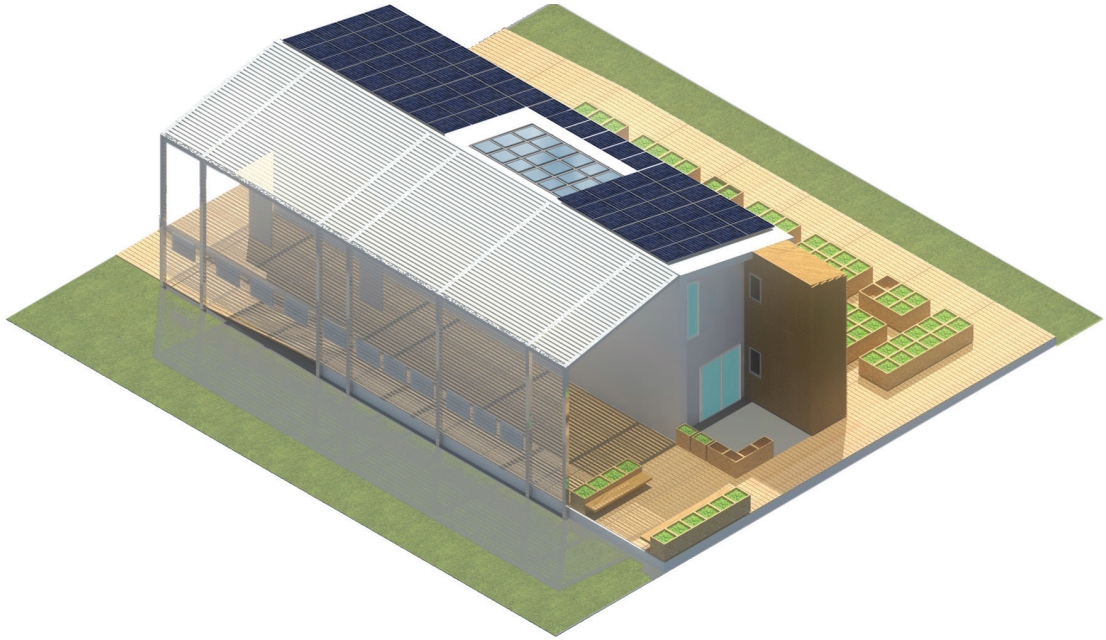
OPEN

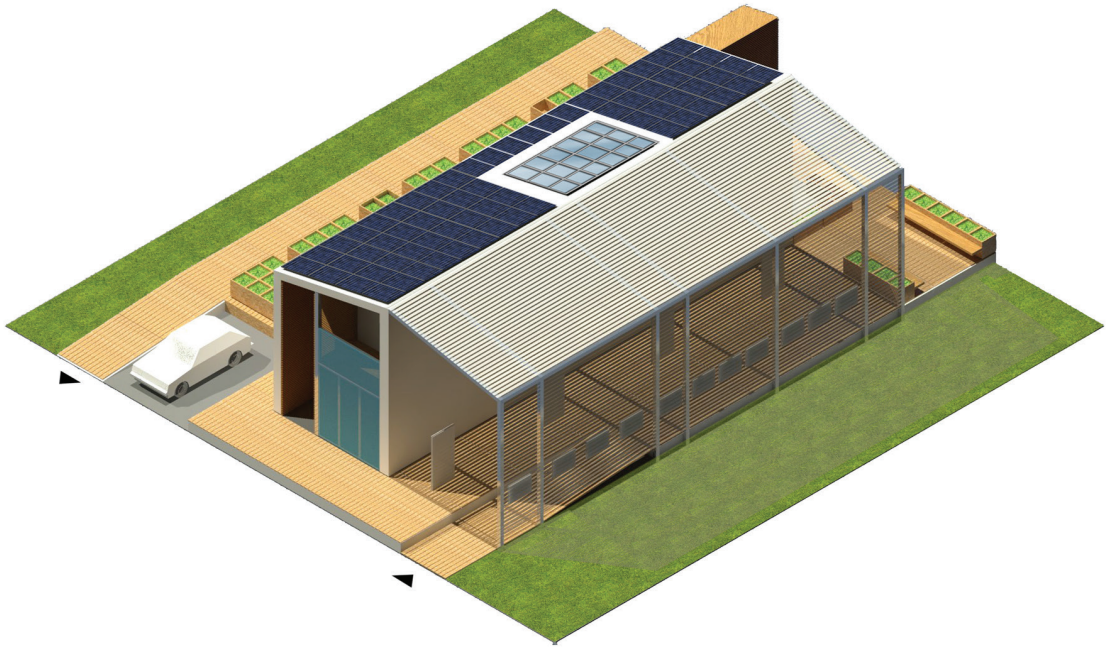




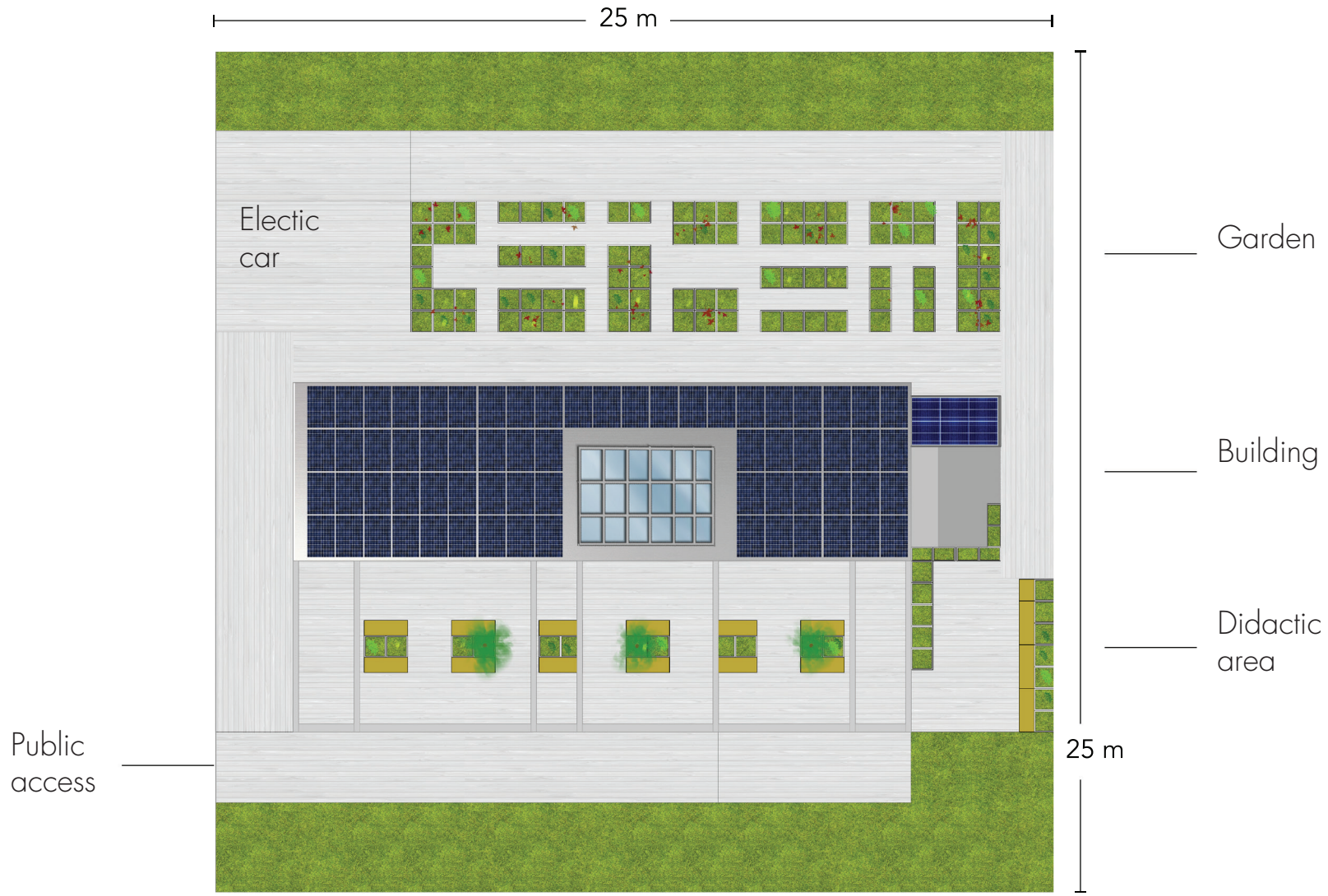
FLEXIBLE FURNITURE

LANDSCAPE





SOUTH AND NORTH VIEWS OF THE SPOT IN DEZHOU



MASTERPALN

TEAM
SCUTxPOLITO
SDC2018


SOUTH CHINA UNIVERSITY OF TECHNOLOGY
1934


POLITECNICO DI TORINO
1859
1906