SOLAR DECATHLON CHINA 2013 – TEAM ISRAEL

4th Place

Four Academic Institutions

Most Sponsored Team

http://www.israel-sd2013.com/
Dear Team Israel,

Congratulations! The Organizing Committee of Solar Decathlon China is delighted to inform that Team Israel has been officially selected to enter the Solar Decathlon China 2017 competition.

Composed of College of Management Academic Studies and Afeka College, Team Israel has dedicated substantial effort and support towards the international competition of Solar Decathlon China. The team proposal shows full understanding of the competition requirements and demonstrates a good likelihood of success in delivering a competing house.

OCSDC hopes you the best in the performance of the competition.

Best regards,

Organizing Committee, Solar Decathlon China
22 Teams from 12 countries and 52 educational institutions.

**Project Renewal** - about 100 villages / 10,000 units.

**Long term demonstration** - exposure expected to 3,000,000 visitors.

**Planning a real, permanent, two storiy house.**

**TEAM ISRAEL 2017**

- Dr. Moshe Tshuva- Engineering & Innovation
- Arch. Heidi Arad- Planning & Design
- Hadas Pe’er- Management, Funds & Administrations
- Galia Cuckerman- Agriculture & Food Source

http://sdisrael2017.wixsite.com/cactushome
https://www.facebook.com/cactushomegreenlife/
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http://sdchina.org.cn/English/sdchina2017
TEAM ISRAEL GOALS

**Project Renewal** building in China a house unit out of a planned neighborhood/ rural renovated villages concept, that will showcase the teams’ ideas for positive energy, co-housing & affordable building. Motivated to demonstrate participant companies for three months after the competition. /// August 2017

**Planning a real, permanent, two stories house** each house is planned to be built according to the climate area, culture and needs of its market target. The two versions can demonstrate that with minor changes it is possible to build a positive energy, co-housing & affordable building almost anywhere. /// January 2017

**Long term demonstration** building in Israel a house unit out of a planned building/ neighborhood/ smart city concept, that will showcase the teams’ ideas for positive energy, co-housing & affordable building. Hopefully to become a demonstration center for Israeli green-tech products. /// April 2017
Aug 16

Raise 1/3 of the money (Israeli house type) needed for the project

Lounge website & Facebook page, Planning & sponsor’s recruitment

Nov 16

Raise 2/3 of the money (Chinese house type) needed for the project

Crowd fundraising (marketing), house foundations & city collaboration

Jan 17

Lounge the house in IL, demonstration and marketing events.

House building

Feb 17

House building

Correlations according to house test results. Transportation of all needed products. 3/3 raising money needed

Mar 17

Apr 17

May 17

Jul 17

Aug 17

SDC 2017 Competition
Construction Site
Construction Site
Creation of a cohousing project based on a sharing community, which is inspired by the Israeli "kibbutz" adapted to the Chinese culture and affordability.
CACTUS HOUSE – Concept & Strategy

Integration of multiple engineering solutions: Solar energy, HVAC system, grey water recycling, hydroponics, greenhouses, rain collection, data logging and smart home systems. All internal systems are located within the green wall.

Shared spaces between apartments are used for different activities - laundry, work and study space, gym, community space etc.
Urban agriculture as part of the total site development.
Building a passive residential building of two floors of a total of 170\(\text{m}^2\) on a site of 625 \(\text{m}^2\).
The plan suits a rural family new housing concept for China, as well as a co-housing concept for shared spaces in a private housing building for western communities.
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Landscape Plan & Ground Floor

Elderly couple bedroom & shower room, Shared-family kitchen & living room. Staircase to the second floor is also the mechanical room of the building, stretched along the house from the front to the back.
Interior
Parents (son of elderly couple) & their two kids (in rural areas)
Private sleeping rooms can be Workshop during day hours, or to rent.

Floor also shares:
Toilet
Laundry room
Germination Greenhouse.
INNOVATION – Construction Methods & Material Selection

INNOVATION – Engineering & Systems

Energy Generation

Power Optimizers
Cleaning Panels
Cooling Panels
INNOVATION – Engineering & Systems

Data logger and Smart Home systems

Cloud Based Data Logging System
App Connection
## Smart Home & control

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<th>Device</th>
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<td>Appliance Energy Meter</td>
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<td>PM2.5 Meter</td>
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<td>Smoke Sensor</td>
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<td>Water Temp Sensor</td>
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<td>Smart home hub</td>
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</tbody>
</table>
Smart Home & control

Control System
Smart Home & control

Lighting Control
Smart Home & control

Tempratur & humidity

Weather Station
Smoke Detectors

Smart Plugs
INNOVATION – Engineering & Systems

Water and waste recycling
Grey Water Recycling
INNOVATION – Engineering & Systems

Water and waste recycling
Home Bio-Gas

1 bucket of dinner scraps 2-3 hours of cooking time
Hydroponics & rain collection

- 1 m² = 30 Plants
- Enough vegetables for 2 people per month
- Grow time – 75% of regular grow time
- 100 Liters of water a month = 0.7 NIS
Advisors
Ervin Schilinger /// Livni Engineers Ltd. /// Vishkin HVAC Systems /// Adi Muggia /// Mohadi Muadi

Sponsors
ביית המקומות: בית חסידי באנדרטיה ידידותי לסביבה

בית המקומות הוא בית ייחודי, שהאדריכלות שלהם פועלתشرحたら המגדיריה בחרה

הسهل דקתול בסי, גדת לניקו, בקרוב, בערימה, הים חוף, לוב
THANK YOU