

eden



STANFORD UNIVERSITY
SOLAR DECATHLON 2015



A Stanford student works on the construction of the Start.Home at Solar Decathlon 2013.

Dear Friend,

Thank you for your interest in the Stanford Solar Decathlon team. The Solar Decathlon is a biennial competition hosted by the U.S. Department of Energy to promote solar energy in residential construction and innovations in clean-energy technology. Stanford has been selected as one of twenty teams challenged to design and build a 1,000 square foot, net-zero energy home to be judged in October 2015 at the Orange County Great Park in Irvine, CA.

In Stanford's first Solar Decathlon appearance in 2013, the Stanford Start.Home came in fifth place out of the twenty teams competing. The 2013 home earned first place in the categories of affordability and energy balance and came in third in the market appeal category. The Start.Home's outreach effort reached over 23,400 people, making appearances at the International Builder's Show, the American Institute of Architects – Santa Clara Valley Conference, TEDx Orange Coast and TEDx Stanford, as well as Stanford Connects, Los Angeles.

Throughout the course of our 2013 journey, the home received widespread recognition and media attention:

- Over 16,000 visitors at the Solar Decathlon competition
- TV coverage by prominent local television stations KTVU & ABC7 News
- Feature articles by USA Today, LA Times, & Greenbuilder Magazine
- Over 1,500 Facebook followers and presence on Twitter, Instagram, Flickr, and Pinterest

By partnering with Team Stanford, you will be supporting the development of green building technologies designed and promoted by students. Being a part of this world-class project demonstrates that our industry supporters are investing in clean energy and recognize its power to improve and sustain our environment. Enclosed is our sponsorship packet where you will find more information about the competition, our team, and how you can get involved.

We look forward to hearing from you soon.

Sincerely,



Ariana Bhatia
Business Manager, Solar Decathlon 2015

WHAT IS SOLAR DECATHLON?

Solar Decathlon is a two-year project sponsored by the U.S. Department of Energy to drive innovations in solar technology and energy-efficient construction. After a rigorous application process, the DOE selected twenty teams to compete in Solar Decathlon 2015. The weeklong competition will take place in Orange County, California, in October 2015 and the 1,000 square foot homes will be evaluated according to ten criterion: architecture, market appeal, engineering, communications, affordability, comfort zone, appliances, home life, commuting, and energy balance.

The Solar Decathlon began in 2002 as a U.S. competition and has since expanded to become a global challenge with international teams from the world's leading universities. The Solar Decathlon receives millions of appearances in media, from online and print articles, to television and radio interviews. This year, we look forward to a truly international event in which we will compete with teams from Panama and Singapore, as well as many U.S. teams. For more information on the competition itself, please visit <http://www.solardecathlon.gov>.



A computer-generated rendering of the Stanford's 2013 entry to the Solar Decathlon.





Construction week at Solar Decathlon 2013, where twenty teams competed.



2013: HOW WE DID

1st

in Affordability
& Energy Balance

3rd

in Market Appeal

5th

overall, out of
twenty teams

The Start.Home of 2013 was Stanford's first entry in the Solar Decathlon competition. Designed to provide efficiency and sustainability at the push of a button, Start.Home was built around a Core equipped with integrated mechanical electrical, and plumbing systems and controls that serve as both the brain and muscle of the home. Easily manufactured and transported, the Core facilitates a modular design that allows for adaptability and individualization of the home. As a young family grows in size, the home can adapt accordingly – for example, work space is easily convertible into a second bedroom.

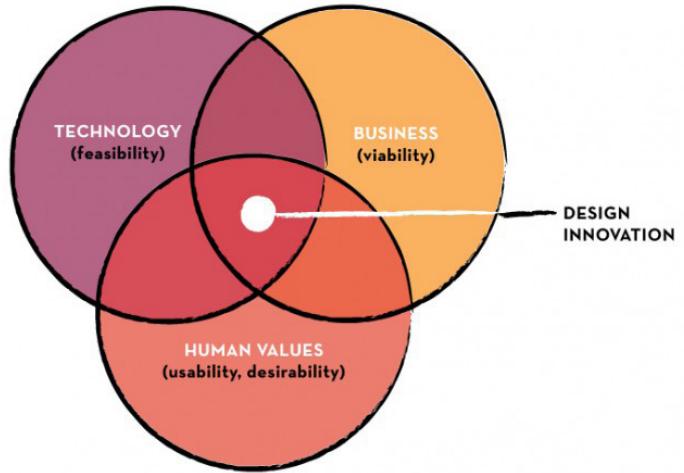
Moreover, the home features an efficient envelope that opens and closes according to climate conditions, as well as flexible interior partitions for a variety of home activities. The Stanford Start.Home now sits at Jasper Ridge Biological Preserve as a home for a local ranger and his family and continues to serve as a modern example of leading solar technology.

DESIGN PHILOSOPHY

Team Stanford's 2015 home is inspired by not only leading architectural design and solar technology, but also the people designing, building, and living in the home. The home will involve the seamless integration of modern living and environmental needs and will transform the conventional California home to a post-modern style, incorporating passive heating and cooling before relying on mechanical systems.

To facilitate a sustainable lifestyle, our team is ideating a system of sensors to collect real-time data and present it to the user in an intuitive way through visual display and installed artwork. Such sensors will inform the homeowner about the monetary and environmental costs of their daily decisions.

We've formed a team of designers from Stanford's Hasso Plattner Institute of Design — known as the d.school — to re-engineer how homeowners perform the most basic tasks, such as using the bathroom and turning on a light switch. The process of developing these devices as well as the overarching architecture begins with needfinding: the procedure of interviewing, observing, and recording the behavior of local homeowners in their homes and interacting with their devices. In the tradition of the d.school, our design will be first and foremost user-centered, rooted in the needs of real people.



The d.school is a very interdisciplinary place, where technology, business, and human values interact. We plan to adopt this philosophy as we design and construct a solar home.

At this stage in the design process, our team has chosen a specific user group: empty nesters, those whose children have recently left home. With this demographic, our attention shifts to an aging generation, those who have spent much of their lives caring for other people and are in need now of a house that cares for them. With this notion in mind, our home will emphasize health and wellness, symbiotically promoting a healthy environment and healthy people. At this moment, our team of engineers is researching health-monitoring technologies while our architects build models of homes that facilitate an active lifestyle in touch with the environment. In true d.school fashion, our team thrives off an interdisciplinary approach to problem-solving. Similarly, we plan to build a home that inspires the home's owner to cooperate with their environment, flourishing together.



Solar Decathlon 2015 members work on initial designs for the home at the d.school.

WHY SUPPORT US

The mission of the Stanford Solar Decathlon 2015 effort is not only to create a home that will win the competition, but also to make a truly global statement with our solar house. We hope to showcase the most groundbreaking technologies in energy-efficient construction. Through a detailed study of the products and systems that have performed well in past Solar Decathlons, as well as an in-depth logistics plan in construction and transportation, we can achieve this goal.

We urge you to support Stanford students in creating an innovative design for a modern home. In order to accomplish our goals, we will need the support of companies and people who share the same vision of a brighter tomorrow. As one of our team sponsors, you will receive not only public recognition on our website and our construction and competition sites, but you will also have the opportunity to form personal relationships with the students of Team Stanford 2015. With the excitement and publicity generated by Stanford, we will create a home that serves as a model and inspiration for Silicon Valley and beyond.

To succeed in Solar Decathlon 2015, we need the following:

- Monetary support to help fund our students, research, construction, transportation costs, and educational outreach*
- In-kind donations of materials, systems, appliances, software, furniture, tools, and equipment
- Consulting and training to increase team expertise and efficacy

*Stanford University is a not-for-profit institution. **All donations are tax deductible.**



HOW TO SPONSOR US

In order to build a fully sustainable, well-integrated home, we have structured our Solar Decathlon program to be a team of ten subteams, each corresponding to one of the ten categories - listed at right - on which the home will be evaluated at the competition. To do this, we are focusing on the development of team work skills and a collaborative mindset. We believe that this is a sound approach to delivering a home that is mobile, ecologically sustainable, and dedicated to the well-being of its owners and the planet. To accomplish this mission, we seek subteam sponsorships in order to cover the extra cost of reality-driven learning, extensive exploration of successful ventures than can inspire our project, home fabrication costs, and round-trip home transportation between Stanford and Irvine.

Architecture

Market Appeal

Engineering

Communications

Affordability

Comfort Zone

Appliances

Home Life

Commuting

Energy Balance

ALEX NUTKIEWICZ

Project Manager
alexer@stanford.edu
(213) 595-7625

ARIANA BHATIA

Business Manager
anbhatia@stanford.edu
(847) 420-0203

LARRY LEIFER

Faculty Advisor
leifer@cdr.stanford.edu

