

LISI – the house of Team Austria  
for the Solar Decathlon 2013 in Irvine, California  
(L.I.S.I. - Living inspired by sustainable innovation)



*The „Solar Decathlon“ is a bi-annual competition of solar homes for the future between universities worldwide. The U.S. Department of Energy (DOE) invites 20 international teams of students to design solar-powered houses that are cost-effective, energy-efficient and attractive.*

### „Simple, excellent and smart“

With the energy+ atrium house „ LISI - Living inspired by sustainable innovation“ of the Vienna University of Technology, an Austrian university participates for the first time in the most ambitious competition in the arena of sustainable solar buildings - the Solar Decathlon. Designed for two individuals, the LISI-House contains a service core housing a bathroom, a bedroom and all the essential technical equipment, as well as a spacious, multifunctional living area which can be extended to the patios in the north and south by fully opening the large-scaled glass sliding elements. Depending on the climatic or social needs of the residents horizontal and/or vertical shading elements help LISI to close or open up to the surrounding area. The synergy of modular timber construction, the use of eco-friendly materials and renewable energies, plus high-quality home automation creates a sustainable and affordable housing project for all kinds of users and sites. It is an interdisciplinary project, based on the cooperation with other universities, institutions like AIT (building services) and IG Passivehouse and companies working in the field of energy efficient and ecologic building .

### Organization

The organization of the competition is clearly structured and managed from the DOE. Over the years, the competition rules were refined and adapted to newly identified needs and requirements, such as affordability and urban quality of the concept. From January 11 to 13 all 20 teams that had qualified for the finals of the competition in October met for the first time at the venue in Irvine, south of Los Angeles, California. Around 150 interested students and their supervisors came together in the Visitor Center of the Orange County Great Park, to get to know not only the venue, but also their neighbors at the site at the airfield. Our team was represented by the PhD students and students who meet the project management tasks.

Additionally, joint activities took place with the science delegation at the Austrian Embassy in Washington concerning the Science Talk, which will take place in 2013 to accompany the Solar Decathlon in Los Angeles, the diplomatic missions and a number of foreign Austrians in the LA area, who will support the team and the Austrian project.

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## Schedule

- February 14 - Submission of detailed design including 3D model
- March-June 2013: Production of the building
- July: Sample design
- August – September 22: Packaging and Transport (6 shipping containers) to California
- September 22 - Start of construction in California (about 40 students will be involved)
- October 3 – October 13: Exhibition in Orange County Great Park, Irvine, California
- Exhibition in Austria (location yet to be defined)

## Facts and Figures

Built-up area including patios: 199.62 m<sup>2</sup>, height of building: 3.7 m

GFA of insulated area: 89.04 m<sup>2</sup>, net area: 64.79 m<sup>2</sup>, containing a large living room, a prefabricated room cell with a sleeping nook, bath/toilet, building services

Construction: modular timber, UAW (California) = 0.2 adapted by post insulation to 0.12 (Vienna)

Sliding glass doors Uglazing = 0.5

Horizontal shading on patios, vertical textile elements on the entire outer surface

Interior surfaces throughout timber, partially oiled including pigments of lime.

Photovoltaics: 40 thin film modules with 2.14 m<sup>2</sup>, 7.5 kWp

Additional building services: managed ventilation system, ClimaLevel - innovative floor design combined with heat pumps, cooling system.

## What can we offer sponsors?

- Integration in the media coverage
- Presentation on site (Xpo in California), as well as support of the Austrian diplomatic mission
- Exhibition in Austria (after Xpo) including sponsors listing (see sponsorship packages)
- Presentations at fairs, at national and international conferences

## Documentation, presentation and dissemination of the project throughout the preparation time:

a professional film crew will support the project to the end, a LIVE-block is enabled on our website.