

Solar Decathlon hits the road to catch some Spanish sun

By Paul Ridden

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The FABLABHOUSE entry from Instituto de Arquitectura Avanzada de Cataluna is shaped for optimum solar capture

[Image Gallery \(21 images\)](#)

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Madrid will host the first European version of the [Solar Decathlon](#) competition this summer which sees teams from universities throughout the world designing, building and displaying efficient and sustainable solar homes. The overall competition winner being decided after the completion of ten trials aimed at gauging each entry's energy efficiency and sustainability credentials.

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First seen in the US in 2002, the Department of Energy organized the Solar Decathlon to be exported to Europe for the first time this year. The idea of the competition is to design, build and operate "an energetically self-sufficient house that runs only on solar energy, is connected to a power grid, and incorporates technologies that maximize its energy efficiency."

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Following an agreement between the US Government and Spain's Ministry of Housing

signed in 2007, 19 universities across the globe were invited to participate in [Solar Decathlon Europe](#) 2010 and have spent the last couple of years developing their entries. Each team has received financial support from Spain's Ministry to the tune of 100,000 Euros (about US\$140,000) to help realize their projects.

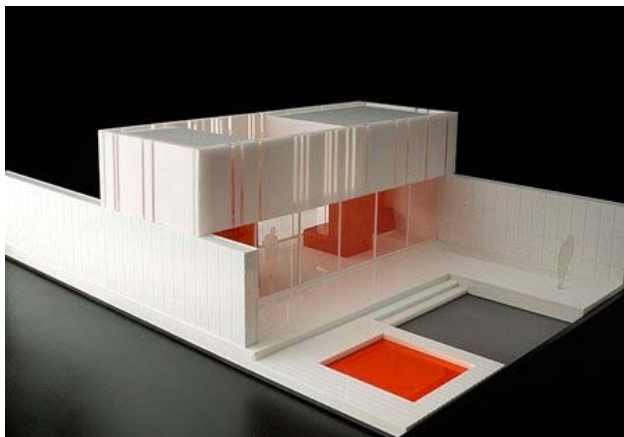
This year, teams from universities in Germany, France, the US, the UK, and of course Spain (amongst others) will assemble their [prototype homes](#) in a special 30,000 square meter "Solar Village" within view of the famous 'Cornisa de Madrid' in Madrid where they will then compete in ten trials to test for energy efficiency and self sufficiency to determine an overall winner.

A traveling exhibition showcasing scale models of the Solar Decathlon Europe entries has been created where video introductions from each team outlines projects to visitors. The exhibition has already enjoyed a lot of interest from the public and media when it visited several Spanish centers of learning, fairs, city halls and shopping malls.

The Solar Decathlon sees 19 entries competing in ten contests that are designed to simulate the way in which we use energy in our daily lives. Last year's US Decathlon saw the reigning champions from Technische Universität Darmstadt in Germany [take first place](#) with their two-story Cube House, where the exterior was almost completely covered in two kinds of solar panels, one more efficient in direct sunlight and the other managing to produce power from indirect light too.

What will we see at this year's Decathlon?

This year sees teams including Team Bergische Universität Wuppertal, looking to "produce as much electricity at the end of the year as was consumed in the grid" with its two story entry which sees all of the "technological elements relevant for the house's services" above an open living area.



France's Ecole National Supérieure d'architecture de Grenoble present the Armadillo Box. Enclosed in 52 square meters of solar paneling, with the living space organized around a technical nucleus the designers see the home producing enough energy to satisfy both the occupants and to charge an electric car.



Rather than opting for the popular box and panel design, the unique-looking Fablabhouse from Instituto de Arquitectura Avanzada de Cataluña is shaped for optimum solar capture and incorporates photovoltaic imprinted textiles on a ribcage of reinforced bars.



Building on the Chinese philosophy of striking a harmonious balance between man, nature and housing the Sunflower from Team Tianjin University makes maximum use of passive solar technologies in a commercially viable sustainable design.



There's a lot of sun in Florida and its university team was inspired by the simple principles of the native Cracker Houses "intended to provide natural light and ventilation to the interior in hot climates". Modular in approach, a technology wall to the south of the house is home to all the plumbing and electronics with the rest of the structure given to divided living space.



The competition entrants will need to construct their full-scale houses between June 7 and 17th, with the ten contests to decide the winner taking place between June 18th to 27th.