20 teams from 16 countries have been selected for the Solar Decathlon Europe 2014 in France. The 2-week long competition-cum-exhibition will be hosted at the Chateau de Versailles in Paris(picture) in collaboration by the US DoE and the French Ministry of Housing. A total of 600 students and 100 faculty representing 41 universities will come together to create a rich global community working towards sustainability. Started in 2002 this biennial event has now grown to become a world scale event spreading its reach to Europe and China, with a non-divergent aim of developing energy sustainability and energy-efficient technology through the best students in the world.

Out of this was born Team Shunya-aimed not at developing energy efficient houses but at developing houses that need SHUNYA external energy.This was a big challenge and being used to face challenges, students of IIT-B and Rachna Sansad Academy of Architechture took up the task of developing a house which was not only technically precise but also practically feasible. The desire to make a change mingled with an aim to increase awareness about green buildings among students, academia, genres. This provided the students with an opportunity to gain valuable hands-on experience in technology development. The euphoria of students is unmatched as they sharpen their swords for a competition of such high repute and magnitude. Exposure to industrial level research in GREEN Buildings also induced many to be a part of it . With the growing population in India increasing from 22 million today to 91 million by 2030. A resolute need to design homes that are cost effective, comfortable and sustainable, is that need of the hour, and this was exactly when H-Naught(pic) was born. H-Naught, a house that has all the essentials of a place one calls home fused with its technical suprebia. h-naught is basically a Quintessential Indian house aimed at the requirements of the largest part of India's population-the middleclass. Team Shunya's 'H Naught' has relied upon the Vedic system of Vastu, and some green technology to best optimize a fully functional urban residence for a family of six.

But as always the road was treacherous and the journey full of quandaries ,left to be faced. The biggest problem that Team Shunya faced was to keep the house cost-effective , so that it can be catered to the Indian middle class. Keeping in mind the ever-rising construction material rates something ingenuous had to be thought of. Giving it a blend of the Indian Architecture, a lethal pair of bamboos and gypsum is used in the prefabricated insulating panels to be installed on the house which serve the dual purpose of insulation and providing structural strength .The choice of bamboo was a genius thought keeping in mind its availability in India and its cost .

But when it comes to a house power is one of the aspects which one cant neglect. Keeping in mind the requirements of the Indian locale Team Shunya has used Mono-Crystalline cells with high efficency .Some DC appliances may be used to improve efficiency. The house is Grid connected, but its feeds to the grid unlike most houses.

A Modern house is a one which can make an Indian shell out a huge sum for it .with this Indian economic sense in mind TeamShunya has designed the house to be Ultra-modern.A Home automation system is designed by students to manage various appliances of the house and monitor comfort conditions. The GUI(Graphic User Interface) has been created for additional functionality (use from console/smartphones/Aakash Tablet).

To win a competition all its takes is to be different and some places where the innovation of students of IIT-B knew no bound are clearly reflected in the house. They are :

- Hybrid AC
- Structural Beams and columns serving as water storage
- PVT system with reflectors

- PV tracking system
- Solar Oven
- AC DC appliance usage
- Corrugated walls with space for ducting and wiring
- Thermo-syphon wall system for radiant heating
- Clothes dryer
- In-house instrumentation system
- Adaptable footing system
- Air to Air heat recovery system
- Simulation based optimization of building design
- Demand controlled ventilation
- Use of PCM as thermal storage
- Building integrated solar thermal collectors

With all this embedded in the powerhouse H-naught ,IIT-B aims to emerge as winners at the solar decathlon 2013-2014 .Many claim that the earth is near the brink of disaster and the Solar Decathlon aims at keeping it as far as possible. As Aryabhatta shook the world with his discovery of zero, IIT-B aims at shaking the world with its H-naught-Taking solar energy to the Next Level .

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