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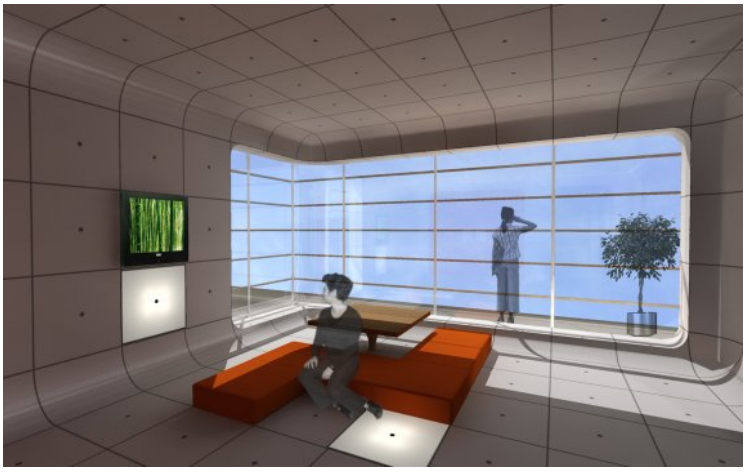


LILES - Sustainable social housing in Beijing

Author: Bianchini e Lusiardi associati architects

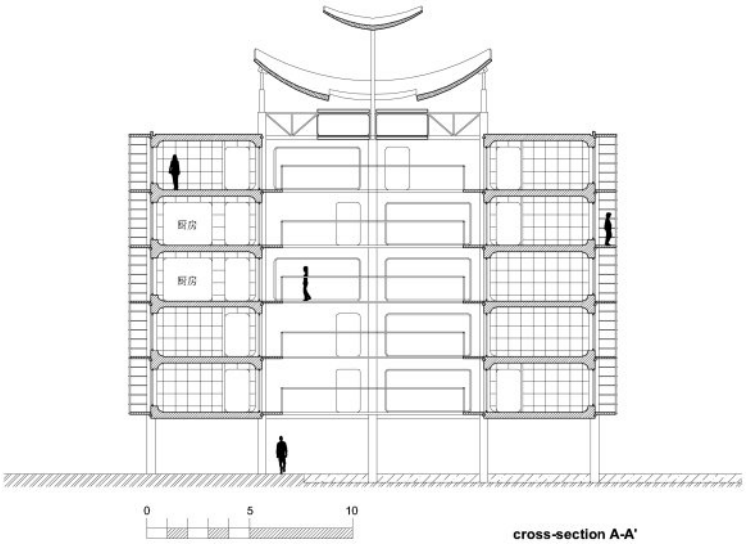
Type: competition project for the *China solar building design international competition*

Year: 2007

Place: Beijing, Republic of China

Organizing bodies: International Solar Energy Society, China National Engineering Research Center for Human Settlements , Chinese Renewable Energy Society

Awards**: Prize for technical excellence**



Project description

This sustainable housing complex is divided in 3 independent blocks, all rising on a shared water basin; the acronym LILIES comes from that: like water lilies the buildings rise on water and make use of the sun radiation to fulfill their energetic needs.
The electrical power comes from an array of 9 solar Stirling motors, a type of solar generator that uses the difference of temperature to generate electricity.
The heating/cooling system is based on a water heat pump that exploits the water basin at the base of the buildings. Natural ventilation is also broadly used, mainly in summer.
The buildings are envisaged to be energetically self-sufficient.
The apartments are formed by modular units fixed to a main steel structure, by aggregating such units it is possible to have in the same block a broad choice of apartments suitable for 2 up to 6 people, all apartments have also an outdoor terrace. The total surface of the dwellings is 7,200 sqm, the single apartment surface ranges from 38 to 100 sqm.

The apartments are also modular inside: all the interior cladding is made by aggregating several 0,6x0,6 m. tiles; the standard tile contains a low-voltage wiring with power and signal sockets and 4 led lights. Thus every point in the dwellings could be turned into a light fixture, or into a support for TV's or any other electrical equipments. The tiles are also coated with a soft rubber so people can freely sit on them. The idea is to eliminate the traditional subdivision of a room in predetermined functional zones: every part of the room could be configured freely following its inhabitants desires and preferences.