

WEEKEND JOURNAL.

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Good things in small packages

Design company Infiniski pushes recycling to its architectural limit with eco-friendly homes

By William Boston

Who says inexpensive has to look cheap? In this economy, even well-heeled consumers are searching for bargains on, say, a second home, or even a first home that combines unique design and ecological sustainability at a reasonable price. And while such an abode may cost less, it certainly shouldn't look like a cheap off-the-rack suit.

That was the idea behind the formation in 2008 of a tiny company in Spain, called Infiniski, which is building individually designed homes out of completely recycled material at a price that aims to leave the conspicuous out of consumption in these times of shrinking budgets. When it comes to new homes, small is the new big statement. "Our designs are affordable," says Juliette Frey, a co-founder of Infiniski, which is based in Madrid, Spain and Santiago, Chile. "But they are also innovative, individual, and target the person who wants sustainable architecture with style."

Infiniski's designs are based on what could be called a building-block approach. The basic structure of each house is created out of recycling de-commissioned maritime shipping containers. Maritime containers can be seen around the world on every construction site, as barracks for soldiers in Baghdad or makeshift offices. In some cases, homes are made of pre-fabricated steel or wooden structures. But Infiniski has taken the idea a step further, a kind of variation on the Bauhaus box concept, where the simplicity of form and intense functionality of the space made it attractive intellectually and also allow for seemingly endless improvisation.

While affordable and reliant upon industrial construction methods, the Infiniski home isn't designed for the masses. "Each home is unique," says Ms. Frey. The typical buyer of an Infiniski home, she says, is what the French refer to as "bohémien bourgeois," a 30- or 40-something who earns well and aspires to own a home that redefines luxury and also reflects a lifestyle marked by a commitment to reducing one's personal impact on the environment. "In most cases these are people who are becoming affluent but still adhere to an alternative lifestyle. They don't want to live a normal life," says Ms. Frey.

The homes are designed by Spanish and Colombian architects Jaime Gartzelu and Mauricio Gabeano, the team behind the Jones & Mau architectural firm in Madrid. The pair specializes in ecological designs using modular forms, recycled materials such as shipping containers, railroad ties, wooden pallets, aluminum and even glass bottles. By the nature of the design, each house must be different. In addition to using ecological building materials, Infiniski also employs what it calls a bio-climatic approach. That means that each home's form and position is adapted to its energy needs in its specific natural surroundings.

Anyone who has vacationed or lived in southern Europe in the summer months has probably spent some time in a traditional house, with its thick walls and shutter-clad windows. The shutters are closed during the hot hours of the day to keep the sun and the heat out; Mr. Gartzelu calls this vernacular archi-



ture, the way traditional housing developed historically in its specific environment. Infiniski takes vernacular traditions and applies new technologies, so-called organic technologies, that aim to make the home more a part of its natural environment than conventional home construction allows. "We apply technology to make your house like an organism in the natural environment that, like a flower or a tree, responds to changes in the climate and can also take advantage of them," he says.

Casa Manifesto, a 160-square-meter home in Chile that uses three de-commissioned maritime shipping containers for its basic form, is Infiniski's most advanced experiment with such design concepts. One container is sliced to open the space, providing room for glass walls that let in natural light. The remaining containers are laid across the top like a bridge to create an upper level. The original wooden floors of the container have been refinished. Overall, 85% of construction is from recycled materials. Through its design, positioning, and the use of alternative energy systems, Infiniski says Casa Manifesto provides 70% of its own energy needs.

Why isn't such an eco-friendly house completely self-sufficient? "Electricity provided from the power grid is still a lot more efficient than local windmills or solar systems that power individual homes," says Mr. Gartzelu. "So we advise our customers to use the power from the grid unless the house is being built in a remote area where there is no grid."

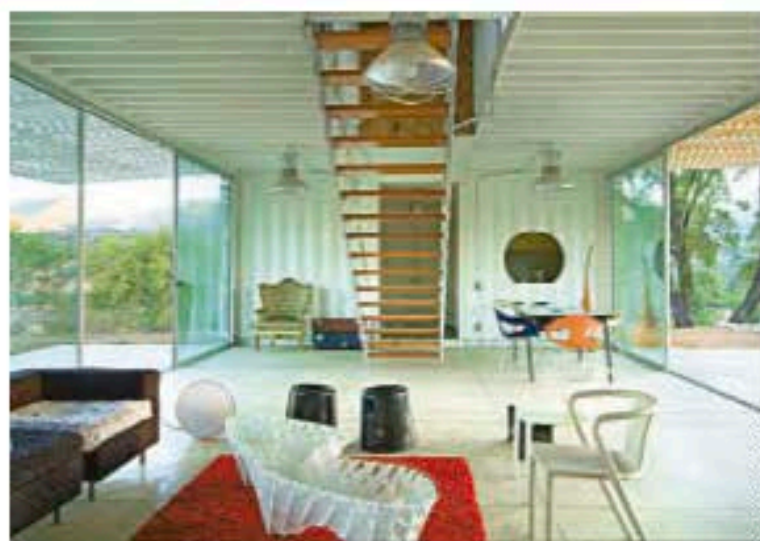
There are several advantages of using retired shipping containers and other forms of pre-fabrication—a practice common in the U.S. but still rare in Europe. The biggest advantages are construction speed and cost. A typical Infiniski house can take just two months to build from start to finish, compared to as long

as a year for a typical Spanish home. And the cost of about €900 per square meter can be up to 50% less expensive than a conventional home of an equivalent size. The typical Infiniski house is about 150 square meters, which puts the cost at about €135,000.

There is also a downside. As a simple metal box, unlike the quaint mud cabin in Greece, Turkey or the American Southwest, where traditionally, climate determined the architecture, the container has no thermal qualities. "We have to spend a lot of time and money using technology to compensate for the negative characteristics of the container," says Mr. Gartzelu.

That is where the notion of organic technology comes in. Casa Manifesto, for example, uses a system of wooden pallets that form a kind of second skin and function as blinds to shield the home's surface from the hot Chilean sun in the summer. In winter, the pallets can be lifted back to allow the sun to warm the metal walls of the house and generate heat, which prevents the warmth inside the house from leaking outside. In some homes, the outer siding is not made from pallets but from wood from certified sustainable forests. Warm water is provided through solar panels. Insulation, a major factor in creating the home's internal climate, to keep it warm in winter and cool in summer, is made of newspaper. In this case, the paper is not recycled, but is actually created by shredding unsold newspapers. The paper is then blown into the walls of the house. This paper insulation is provided by wholesalers who specialize in such organic products.

So far, Infiniski has built homes in Spain and Chile, but the company is working on a broader distribution model. Ms. Frey says one idea is to create kits that would allow homeowners to assemble their own mail-order designer homes.



Top: Infiniski Project Casa Manifesto; above: the eco-friendly interior.



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