

Say the words prefab housing, and most people think of snap-together bungalows and log-cabin kits. But a new generation of architects is making prefab more fun **By Richard Lacayo**

WE TEND TO think of prefab housing as one of those products of the industrial age, like the videophone, that the world has not exactly rushed to embrace. Americans have no problem with mass-produced cars and mass-produced coffee. But show them a house that has been manufactured in parts in a factory, then trucked to the building site for final assembly, and they start to flinch. The prejudice against prefab may date to the earliest human notions about home. Say what you will about caves, they were definitely not factory made.

All the same, if prefab has never quite arrived, it is also an idea that never goes away. In the more crowded confines of Europe and Japan, the possibilities offered by prefab are eagerly pursued. In Sweden, Ikea has sold more than a thousand of its Bo Klok ("Live Smart")

prefab apartments. In London the engineering firm First Penthouse uses cranes to lower instant apartments onto the rooftops of existing buildings. And lately a number of American architects have been venturing into prefab as a way to bring clean, modern design into a U.S. housing market still dominated by retro ranch styles, sentimental Colonials and faux-Georgian mini-mansions.

"Ninety-five percent of the domestic spaces produced in the U.S. do not have the involvement of an architect," says Joseph Tanney, a New York City-based architect. "Especially in the suburbs. I call them graveyards of complacency." So Tanney and his architectural partner, Robert Luntz, have jumped into prefab full force. Their firm, Resolution: 4 Architecture (*re4a.com*), offers a selection of prefabricated house designs, all growing out of a few basic forms that can be combined to make simple or more complex configurations, from the Standard Bar to the 2,400-sq.-ft. Three Bar Bridge. Tanney and Luntz expect to start construction this month on the first, the 2,000-sq.-ft. Dwell Home. Because the fees for contractors who assemble the house differ widely in various parts of the country, Tanney says the price of a finished house can vary from \$120 to \$200 per sq. ft., plus his firm's design fee.

At this point, a little primer on prefab might be useful. At one end of the housing spectrum is conventional "stick built" construction. At the other is the mobile home assembled entirely in a factory and then delivered in one piece to your plot. In between is the world of prefab and modular housing. Whole segments of a house—picture entire rooms or halves of them—are produced in the factory. Kitchen cabinets, toilets, electric wiring, even door-knobs are all put in place before the modules are shipped out on flatbed trucks to the building site, where they are hoisted by cranes onto a foundation. Then contractors come in for a period of weeks or months to join the

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sections together and do whatever finishing work is required.

By the 1920s the prefab idea had seized the imagination of the great visionaries of 20th century architecture, though they approached the question with their usual indifference to public taste. The pioneer modernist Le Corbusier wrote a famous essay in praise of "Mass Production Houses." He just never got around to producing one. Geodesic-dome inventor Buckminster Fuller spent years tinkering with his Dymaxion House. But he insisted on making it circular and steel walled. Americans weren't ready for a house that looked like a flying saucer.

So it was merchandisers, not elite architects, who would be the first to exploit the potential of prefab, though mostly in traditional styles—Tudor, Cape Cod, bungalow—that would have made Le Corbusier fall on his protractor. As early as 1906, the Aladdin Company was mailing out

factory-made Readi-Cut house kits of precut, numbered pieces. Between 1908 and 1940, Sears Roebuck shipped out nearly 100,000 of its House by Mail kits. For a cost that varied between \$650 and \$2,500, the ambitious do-it-yourselfer received an avalanche of 30,000 pieces, including lumber, nails, shingles, windows, hardware and house paints—plus a 75-page assembly manual, undoubtedly the most welcome part of the package.

After World War II, when many defense plants were repurposing, some turned to producing prefab wall systems—enameled-steel panels that not only were easy to clean but also allowed you to attach paintings to your walls with magnets. The Jetsons would have loved it. All the same, by the 1950s prefab was in decline. Mobile homes had emerged as the more popular low-cost alternative to stick-built housing. There are still dozens of modular-housing manufacturers in the U.S., but last year they produced just 36,000 of the more than 1.8 million new housing starts nationwide.

Younger architects know they have to fight a stigma attached to the whole idea of factory-made housing. "With a lot of people, when you say 'prefab,' they think of mobile homes," says Rocio Romero, an architect based in Perryville, Mo. "And the prefab homes of 30 years ago were made of cheaper materials. They weren't design oriented. They *were* reminiscent of trailer homes." Romero (*rocioromero.com*) has just begun to produce the LV House kit. With its generous windows and clean, simple lines, the LV House is reminiscent of Philip Johnson's famous Glass House in New Canaan, Conn. Adapted from an inexpensive second home that Romero designed for her parents in Laguna Verde, Chile, the kit produces a rectangular one-story dwelling with two bedrooms and two baths. Price: \$29,195.

Even when you add the cost of shipping—about \$3,000—a building lot



BUILDING BLOCKS: Romero's LV Home kit, left, is clad in corrugated aluminum; computer renderings of Siegal's Swellhouse, above, and the Dwell Home, by Resolution: 4 Architecture, below left; a 1941 version of Fuller's Dymaxion House, below; at bottom, workers in Pennsylvania assemble a prefab home in 1940



and contractor assembly, the final figure for an LV House would be well below the \$337,000 median price for new homes in the U.S., though at 1,150 sq. ft. it's also just over half the median size of a new American home. Prefab houses can be cheaper because plumbing and wiring are laid in at the factory, which eliminates the services of plumbers and electricians on-site. Because prefabs take less time to assemble on-site than conventional houses, there are also fewer weather delays and contractor cost overruns.

Jennifer Siegal of the Office of Mobile Design (designmobile.com), a firm based in Venice, Calif., is preparing to market something she calls the Swellhouse. "It starts with a steel-framed module that's 13 ft. by 13 ft. and 26 ft. high," she says. "You're able to configure these modules like a Lego system to change the number of rooms or the amount of open space the client wants." Her hope right now is that the Swellhouse designs will build for about \$200 per sq. ft. But as factory systems for mass-producing house parts improve, she expects costs to come down in all kinds of prefab production. And that could mean a new world of truly affordable dwellings. "If we can come down to the range of \$60 a sq. ft.," she says, "we can change the whole face of housing." ●

