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5 Designers' Simple Inventions Match Up for Save-the-World Prize

By Joe P. Hasler

It's been 35 years since the German economist E.F. Schumacher conceived the term "appropriate technology" to explain his assertion that grand solutions may fail to improve the daily lives of those they intend to benefit—particularly in the developing world. As leaders in the burgeoning field, like MIT's [Amy Smith](#) and the Full Belly Project's [Jock Brandis](#), have discovered, simpler innovations can often go further, and on the cheap at that.

But they're not the only high-tech minds implementing low-tech fixes. This week at the [IdeaFestival](#) in Louisville, the University of Kentucky's School of Design will bestow its inaugural Curry Stone Design prize, which will honor "breakthrough design solutions that have the power and potential to improve our world." The winner will receive \$100,000, and the nomination itself confers \$10,000. Here are the recently announced design wizards, including one [2007 PM Breakthrough Award](#) Winner, vying for the top award. The Idea /// Windbelt | The Innovator /// Shawn Frayne

How It Works /// The world got its first extensive look (with video) at [Frayne's Windbelt right here](#) almost one year ago: Magnets suspended by a taut membrane oscillate between metal coils to create an "aeroelastic flutter," which can replace the typical wind-fueled rotating turbine on a small scale. The setup is capable of creating energy in even the lightest breezes. Frayne's device—inspired by footage from 1940 of winds twisting the Tacoma Narrows Bridge in Washington state—can generate 40 milliwatts from 10-mph gusts, enough to power a lamp or charge a mobile phone at a fraction of the cost of traditional energy sources.

Why It Matters /// During a sojourn in Haiti in 2004, Frayne noticed locals using kerosene lamps to light their homes. Not only will the Windbelt alleviate the unhealthy and unpleasant issue of smoke-filled homes, but Frayne intends to sell it for around \$5, which is about how much Haitians pay per month for kerosene and other fuels. The Idea /// 10x10 Jonker House | The Innovator /// Luyanda Mphahlwa & Mphethi Morojele

How it Works /// Design Indaba, a South African design expo, enlisted Mphahlwa and Morojele—principals at the Johannesburg firm MMA Architects—to create an innovative and practical home for the Jonker family, who reside in the dilapidated Cape Town township of Freedom Park. Using a basic timber frame and sandbags for walls, the two were able to complete the project for less than \$7,000.

Why It Matters /// As post-apartheid South Africa's population continues to swell, especially in the crowded shantytowns that surround major cities like Johannesburg, Pretoria and Cape Town, the need for safe, livable housing is a serious concern. In fact, that sort of housing could be useful beyond South African borders. The two-story Jonker

home shows that even with limited building materials and money, one-room tin shacks aren't the only option.

The Idea /// One Small Project | The Innovator /// Wes Janz

How It Works /// Accompanied by students from Ball State University, professor and architect Wes Janz headed to Sri Lanka in 2003 to reconstruct pavilions and structures that were destroyed during the still-simmering civil war there. Janz and his students relied almost entirely on scavenged construction materials in an effort to kick-start the rebuilding process in the war-torn Jaffna peninsula.

Why It Matters /// The One Small Project concept is simple: Take small steps to help individuals or families in need, whether they've been displaced by a storm or evicted from an informal housing settlement. Janz hopes to show how individuals working on small projects can make massive impacts, especially in the developing parts of the world.

The Idea /// The Dry Toilet | The Innovator /// Marjetica Potrc

How It Works /// When a neighborhood barely has running water, it seems a shame to use any water for flushing toilets. That's why artist and architect Potrc developed the Dry Toilet during a six-month stay in the barrios of Caracas, Venezuela. In addition to saving water, the toilet functions as a compost heap by converting human waste into organic fertilizer. Today, many private homes in the area have Dry Toilets, which are made entirely from locally sourced materials.

Why It Matters /// In a city where half the population goes without running water five days of the week, the Dry Toilet provides a simple, sustainable solution to a fundamental problem. Moreover, the converted waste goes into growing food instead of back into the water supply.

The Idea /// Human World | The Innovator /// Antonio Scarponi

How It Works /// After witnessing the protests of the 2001 G8 Summit in Genoa, the Italian architect Antonio Scarponi set about changing the way globalization is understood and depicted graphically, setting aside geographic boundaries and instead focusing on the populations within them. The result, Human World, is a collection of themed maps that address issues symbolically. A nation's size on the map might indicate the country's population, its access to the Internet or its use of capital punishment.

Why It Matters /// Scarponi's Human World renderings are intended as a sort of graphic report card, in atlas form, on the human race. They show areas where political and ethical progress has been made, and those where there is still work to be done.