### Applying Nanotechnology to the Challenges of Global Poverty: Strategies for Accessible Abundance Bryan Bruns

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#### Global Poverty

- 1.1 billion people live on less than \$1.00 a day
- 2.7 billion live on less than \$2.00 per day
- More than 1 billion people lack access to improved water sources
- 1.6 billion people lack access to electricity networks
- Could advanced nanotechnology make a difference for global poverty?
- If so, how can we make sure the benefits are as widely accessible as possible?

#### Applications & Strategies - Overview

- Water
- Energy
- Information
- Health
- Materials
- Environment
- Livelihoods

- Decentralize technology
- Adapt designs
- Open access
- Share knowledge
- Verify safety
- Recycle resources
- Facilitate transitions

### Selections from the 2025 Catalogue

- 1. Water filters
- 2. Solar panels
- 3. Comsets
- 4. Nanoclinics
- 5. Nanofabs
- 6. NanoRefineries
- 7. Project kits
  - a) Earth healing
  - b) Space exploration
  - c) Inner paths
  - d) Communities





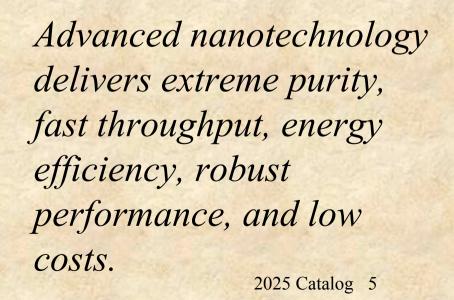
Welcome to our catalogue bringing you the best nanotechnology products for use around the world. Our innovative designs, low cost, and open licensing policies are designed to serve as many of the world's people as possible.

"applying molecular manufacturing to solve practical problems"

## Nanopure Water Filters

- Precision molecular processing ensures purity
- Exceeds all drinking water quality standards
- Self-cleaning to keep maintenance simple.
- Accurate to parts per quadrillion

Also see Deluxe Models with natural flavor combinations, fluoridation, and other customized processing.
High volume units available for commercial and community sites.



decentralize technology

## Solar Roofing Panels

- Photovoltaic energy where you need it
- Easy assembly and attachment
- Robust design with failsoft nanocells, automatically reroutes if panels are cut, nailed, or damaged.
- Deluxe Model includes integral energy storage and lighting
  Add an autoconfiguring Substation Unit to link multiple panels, deliver multiple output voltages, and manage grid linkages

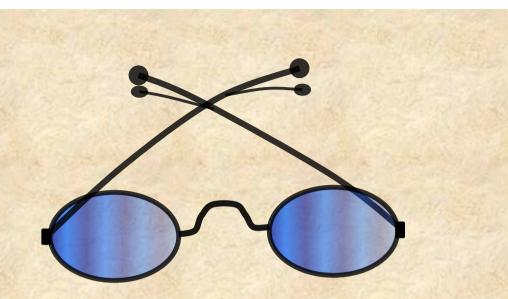
Specially designed to supply basic electric power. Shipped directly from specialized production facilities

Adapt designs

#### Comsets

- The essential link for communications and computing
- Complete self-learning primary and secondary curriculum in 10 world languages
- 120 skill courses, additional modules available

For areas without local net access, add a **Base Station** for full satellite and local network management



This is an enhanced version of the equipment provided by the Universal Education Initiative. Great for independent study or to aid classroom learning.

#### NanoClinics

- Nanodiagnostic unit with full range of sensors, analytical tests, and medication formulation
- Rugged design for field use
- Licensed for a full range of tests and medications
- Trimodal operation with integrated pharmaceutical dispenser:
  - 1. Over the counter (unsupervised)
  - 2. Clinic (supervised)
  - 3. Link to TeledoctorTM system

Insert Sample	Dispenser
000	

This model includes a full range of diagnostics and therapeutics, along with the latest preventive and restorative treatments.

share knowledge

### Nanofabs

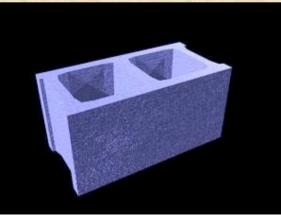
- Your own nanofactory
- Certified safe and non-polluting design
- Full menu of approved open source templates
- Cartridges for field use where feedstock connections unavailable
- Authenticator module verifies use with commercial templates

verify safety

Now with an even bigger range of pre-approved designs available. New downloadable templates being added all the time.

Also see our customized units for volume production of construction blocks (nanofiber-diamondoid tensegrity design), solar panels, and other specialized products

Image adapted from: http://www.baument.com/CDPreviews/meshes6/RUBBLE.HTM



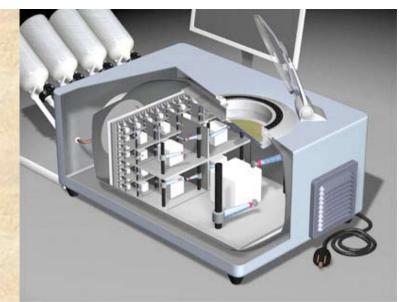


Image by John Burch, Lizard Fire Studios, http://www.lizardfire.com

#### NanoRefineries

- "Close the loop" with these state of the art recyling units
- Save on input costs and "turn trash into treasure"
- Flexible extraction technology decomposes most materials "as is" with minimal pre-processing
- Output to standard cartridges or link directly to Nanofab
- Special isolation and inert storage for heavy metals



These units employ the same technologies successfully used in large-scale land-fill recovery and urban waste processing, now sized for household and village use.

These units are suitable for decomposing solid wastes. Contact us about nanoremediation for soils, groundwater and other specialized applications.

recycle resources

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Living and Learning in an Age of Transition What role could you play in humanity's grand challenges? Introductory experience kits to

explore your interests and goals

• EarthCare

- Ecological restoration, habitat stewardship, and ecopoesis
- Space Exploration
  - L5, Luna, Martian settlements, Belt and beyond, and the generation ships

Inner Paths

- Self improvement and spiritual quests
- Communities
- Charter settlements, back to the land, arts, historic enactments, and more facilitate transitions



Earth Visual by www.PDImages.com

For many people, a meaningful life means more than just material prosperity and leisure. Designed for all those who may want to pursue something more than ordinary entertainment, sports, hobbies, travel, arts, conventional jobs, and continuing education. Here are opportunities to make a difference, for yourself and for the future. 2025 Catalog 11

#### From Poverty to Abundance

UnsafeIwaterYExpensive energy

Ignorance & isolation Disease

Material deprivation Pollution

Under employment Pure water Cheap energy Ubiquitous information Healthcare available Material abundance Clean environment Experience economy

#### Access Strategies

**Decentralize** technology Adapt designs Open access Share knowledge Verify safety Recycle resources Facilitate transitions



## Nanotechnology enables global prosperity

# Design accessible abundance

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