

product market, we need help from manufacturers and researchers in updating the CPI data.”

Another criticism is that the CPI does not accurately reflect the size of the market. Given the website’s disclaimers, that criticism is unfair, says Duke University research scientist Stacey Frederick, who studies the impact of nanotechnology commercialization on industries and on geographic regions. “People were citing the number of products listed on the site as an official number of the market size, because there aren’t many other readily available sources to cite for this.”

## Lists of shame?

In Europe, some consumer groups are also tracking products containing nanomaterials. In 2012 the Danish Consumer Council launched the Nanodatabase, which includes more than 1200 such products. Also in 2012, the European Association for the Coordination of Consumer Representation in Standardisation (ANEC) and the European Consumers’ Organisation (BEUC) published a database of 117 consumer products in the European Union market claiming to contain silver nanoparticles.

Unlike the CPI, the European databases explicitly seek to raise awareness of nanotechnology’s potential risks and to encourage government regulation. Products in the Danish database are color coded according to their potential risk to human or environmental health. (The CPI “refrains from making such

judgment on the products because we seek active participation from manufacturers,” says Quadros.) The ANEC/BEUC collaboration urges the US and the EU “to set up an extensive mandatory reporting scheme of all nanomaterials used in all products available on the market”—already a requirement in France and one that Denmark is considering. One EU regulation already in place forces cosmetics manufacturers to provide the name of the nanomaterial—followed by the word “nano” in brackets—in the list of ingredients.

Government agencies in the US have been slower to act. The Consumer Product Safety Commission does not yet regulate nanomaterials, but it engages in environmental, health, and safety R&D through the interagency National Nanotechnology Initiative (see the report on NNI in *PHYSICS TODAY*, September 2013, page 21). The Food and Drug Administration, which regulates medicines, medical devices, foods, and cosmetics, and which also conducts R&D through NNI, has invited the cosmetics and food industries to consult with them before taking their products to market.

Not surprisingly, representatives from the private sector chafe at regulation. Steffi Friedrichs, director general of the Brussels-based Nanotechnology Industries Association, says her organization and its members do not support the idea of government-mandated reporting schemes. And the problem with the CPI and other inventories based pri-

marily on product claims, she says, is that such databases contain “biased information” and “during the current debate on nanomaterial safety, [they] tend to unjustifiably turn into lists of shame.”

**Jermev N. A. Matthews**

## news notes

### Nuclear weapons costs detailed.

Over the next 10 years, the US will spend \$355 billion for nuclear weapons, including \$105 billion at Department of Energy national laboratories and facilities for warheads, naval reactors, and operations, according to a Congressional Budget Office analysis. The watchdog agency projects that between 2014 and 2023, DOE will spend an additional \$74 billion on nuclear weapons legacy costs, including \$67 billion for environmental and cleanup costs at weapons facilities. For fiscal year 2014, DOE requested \$8.3 billion to support nuclear weapons-related work, while the Department of Defense requested \$14.9 billion for nuclear forces.

According to the analysis, the sea-based nuclear force, which will require an estimated \$82 billion to maintain and modernize during the next 10 years, will be the most expensive component of the nuclear triad. Much of that is to pay for two new ballistic missile submarines. The cost for the land-based force is estimated at \$24 billion, while the bomber force is expected to cost \$40 billion.

DK ■

## Recently on physics today online...

open online courses, or MOOCs, and other modern innovations.

### ► Points of View

Mohamed Gad-el-Hak of Virginia Commonwealth University argues that traditional methods of teaching are more effective than massive



### ◀ Enterprise

A young company in Rotherham, England, has devised new, eco-friendly laundry technology based on lentil-sized polymer beads.



### ► Singularities

Career consultant Alaina Levine offers advice on how to go about landing your very first—or next—job.



[www.physicstoday.org](http://www.physicstoday.org)



### Associate Editor

*Physics Today* is looking for a creative, talented, energetic individual to edit feature articles and other material for the magazine, contribute to the Search and Discovery department and supply material for [physicstoday.org](http://physicstoday.org).

The successful candidate will

- Edit manuscripts for organization, content, balance, clarity, visual appeal, and length, rewriting as needed, working closely with authors.
- Follow advances in cutting-edge research, interview appropriate scientists, and synthesize information to create accurate, balanced, and engaging research news stories.
- Contribute to the general pool of ideas at *Physics Today*.

**Requirements:** PhD in a physics-related science or equivalent experience; demonstrable ability to solve substantive editing problems; demonstrable reporting and writing skills; excellent command of written English; excellent interpersonal and communication skills; ability to meet deadlines.

*Physics Today* is published by the American Institute of Physics, an Affirmative Action and Equal Opportunity Employer that offers competitive salaries and excellent benefits. To apply, please send an informative cover letter with your resume and salary requirements to:

**AIP Human Resources** [aiphr@aip.org](mailto:aiphr@aip.org)