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# Keeping Track of Atomic Matter

By [Louise Knapp](#)

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2:00 a.m. March 20, 2002 PST  
All that's needed for a do-it-yourself nuclear bomb is a little bit of know-how, an old cannon, and a few kilograms of plutonium or enriched uranium.

At least it sounds that easy, according to George Bunn, consulting professor at Stanford University's [Institute for International Studies](#) (IIS).



## POLITICS

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"If you got hold of an old cannon and plugged each end with enriched uranium and then banged the two together, it'd go off in the same way the bomb at Hiroshima did," Bunn said.

Obtaining the necessary ingredients may not be too

difficult: There are stashes of plutonium and enriched uranium scattered all over the world -- but a good deal of it is not accounted for.

"Russia, for example, has over 6,000 tons of weapons-usable material, and only a third of it has been secured," said IIS researcher Lyudmila Zaitseva.

Aware that it's probably a good idea to track such explosive material, the IIS team created a database that monitors its whereabouts.

"The main goal of the database is to alert people to the problem, to raise awareness that this stuff is out there and unprotected," Bunn said.

The database not only tracks incidents where weapons-usable material might be missing, it also records incidents involving the more common, everyday variety of radioactive material found in such devices as X-ray machines.

"You can spread other types of radioactive material around via a bomb and make people sick and scare the bejeezers out of them," Bunn said.

The IIS project is called the Database on Nuclear Smuggling, Theft and Orphan Radiation Sources (DSTO). "Orphaned" refers to material that has been "lost," intentionally or by mistake.


Information gleaned from the database so far shows that about 40 kilograms of weapons-usable uranium and plutonium have been stolen from nuclear facilities in the former Soviet Union during the last decade.

While most of that material was retrieved, 2 kilos of highly enriched uranium remains missing, Bunn said.

Zaitseva believes this is only the tip of the iceberg. She estimates that the real amount of missing weapons-grade material could be 10 times higher.

Bunn agrees. "A lot of our information typically comes from arrests made by border control. But if you take estimates from drug trafficking, then the U.S. catches less than 20 percent, and I suspect it's no better catching those who are trying to smuggle other kinds of material across the border."

Information for the DSTO is gathered from two unclassified databases: the [International Atomic Energy Agency's](#) Illicit Trafficking Database, and the Newly Independent States' Nuclear Trafficking Database at the [Monterey Institute of International Studies](#).

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The IAEA database draws from state-confirmed incidents, and the Monterey database is confined to incidents in the former Soviet Union.

The IIS team also gathers information from newspapers, the Internet and transcripts of conferences.

"Information in countries like Bangladesh or Pakistan has to be gathered with very little help from the government so you have to use open sources," Zaitseva said. "It makes the picture more complete."

1 of 2 [Next](#) >>

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