

## So where do you want to spy today?

*A new imaging service is due to be launched next week on the Internet, courtesy of American and Russian military satellites.*

**By Duncan Campbell**

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By the end of this year, the world's largest online database will be offering browse and click satellite pictures of much of the Earth's surface and all of its largest towns. The new picture libraries bring together images collected by Soviet GRU and American CIA military photographic satellites that orbited the planet during the tense years of the Cold War. The pictures are detailed enough to let you look into your own backyard. The problem is, so can anyone else.

The most detailed spy satellite pictures to be made commercially available so far have come from the former Soviet Union's military spy satellites. Since about 1992, the photographs have been available from Sovinformputnik, a Russian sales agency. Although the most detailed military images are still classified, the images from the SPIN-2 (Space Information-2 metres) or KVR-1000 camera systems provide a resolution of 2 metres or better.

A selection of the Soviet spy pictures is now available at a new site ([www.terraserver.com](http://www.terraserver.com)), which is due to be launched next week. Following a deal last year, the Terraserver project has been developed jointly by Sovinformputnik, Digital Equipment, Microsoft, Kodak and the US Geological Survey, together with Sovinformputnik's American partners, Aerial Images Inc.

The computer server at the heart of the project will eventually hold at least a terabyte (a million megabytes) of data. This will include a library of SPIN-2 images as well as 800,000 recently declassified pictures taken by the US spy in the sky of the 1960s and 1970s, code-named Corona. Corona pictures have a similar resolution to the KVR-1000.

The current online selection includes high-resolution pictures of San Francisco, Paris, Melbourne, Nanking and Baghdad, with features such as pavement cafes on the Boulevard des Champs Elysées as clear as a backyard in a Melbourne suburb. Soviet images of San Francisco show the Golden Gate bridge and, after clicking the magnification button on screen, cars motoring over the crossing and boats passing underneath become visible with striking clarity. Taken on a bright, sunny afternoon (of 29 January 1989, as it turns out), the bridge's towers cast a clear shadow. Every tree in the city's parks stand out. The Pacific beaches look inviting. Yet these pictures were taken for a military purpose that might have devastated the beauty far below.

Higher resolution pictures, which can show details with 10 times more precision, are already on their way. In an unprecedented fusion of US and Soviet "star wars" technology, converted Soviet ICBMs have recently been launching into orbit satellites built by American corporations that normally build "black" systems for US intelligence.

The latest Russian "Kometa" surveillance satellite, launched a few weeks ago, was paid for by Aerial Images Inc. With a resolution of about 200 centimetres, online viewers will be able to pick out small buildings and even people (though not their faces).

Unlike the GRU, the CIA is not charging for its pictures; American and Russian commercial enterprises involved in the project intend to make money, however. Browsing the Terraserver site and snooping around is free. But if you want a photograph, which you will be able to order online, the print will cost between \$13.60 and \$38.00, depending on how much you want reproduced.

On first impressions, images available through the project will leave the competition standing; they certainly give the project's partners a head start. Commercial images from space have been available for 20 years from the US Landsat and French Spot satellites, which have been used for earth resources planning and even an occasional media scoop. But because of legal restrictions, these satellites have not been allowed to collect high-resolution images. As a result, the difference in quality is striking, notes John Pike, a space technology specialist with the Federation of

American Scientists, who demonstrates the point by comparing Spot and Corona pictures of the same site — the restricted Israeli nuclear weapons factory at Dimona in the Negev desert (see images, above left).

Pike is excited about the humanitarian possibilities raised by the availability of high-resolution images from space; anyone with an Internet connection could quickly be able to view images of labour and prison camps, and rebel towns and villages that dictators have razed to the ground. In Bosnia, he says, American reconnaissance platforms overflew the killing grounds and documented Serbian atrocities as they happened. A reconnaissance picture of a farm near Donje Pilica, taken just three years ago, shows bodies strewn across a wide area. Just 150 metres away, an excavator is digging a pit to dispose of the victims. When such images become immediately and generally available, Pike hopes, they will transform international affairs.

The Terraserver site is to be officially unveiled by Microsoft next week. After the software giant has used the project to promote its new server system, the US Geological Survey will take over the operation.

After years of legal restrictions on the resolution of civilian satellites, the US government now seems relaxed about the prospect of high-resolution images being offered for sale to all comers. The reason may be that, for US intelligence, the big question now is not what you can see, but who wants to see it. US government regulations require satellite operators and picture distributors to register the images they take and the foreign customers who buy them, and to make the information available.

Before long, you will be able direct your browser to zoom in and take a close look at the CIA's headquarters in Virginia. They, however, will be able to get 20 times as close to you.

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