

From Eyes in the Sky, Profitable Images

A Small Business Is Built On Satellite Photographs

By Terry Trucco

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LONDON — Seated in the tea lounge of the Hyde Park Hotel, Peter Fend thumbs through his photo collection. Like most pictures of Earth taken from satellites, his do not look like much to the unschooled eye. But Mr. Fend's explanations help put things in perspective.

The big irregular blur on the shot of the border between Iran and Iraq is a gigantic man-made water obstacle built by Iraq to repulse enemy attack. Air views of the Gulf of Sidra area reveal a Libyan air base with SA-5 Soviet anti-aircraft facilities. And other photos show the sites of Soviet SS-20 missiles.

The subjects may be sensitive, but Mr. Fend's pictures are neither secret nor stolen. Taken by Landsat, the U.S. civilian satellite that regularly scans the globe, they are part of the public domain. Most already have appeared in newspapers and on television in Europe and the United States.

It is unlikely, however, that they would have been seen at all without the involvement of Mr. Fend's company, the Ocean Earth Construction and Development Corp.

Since 1982, Ocean Earth has built a burgeoning business by retrieving land images from civilian satellites, analyzing them with the help of experts and selling them to research institutes and news organizations. The British Broadcasting Co., Antenne 2 in France and television networks in the United States are among the customers.

Some of the company's site-monitoring projects have been straightforward, such as research on weather patterns in the Amazon basin and a study showing how the African desert has spread into the Sahel region during the past three years.

But its civilian spy operations, as one observer called them, are what has kept Ocean Earth in business. Since the 1982 Falkland Islands war, the company has processed and analyzed satellite data from such trouble spots as Nicaragua, Lebanon and Chad. Industry sources say the tiny company is probably the only one of its kind.

"What we do is contract work, and military sites are where the interest is," said Mr. Fend. Most of the company's projects are now initiated by news organizations, though research institutes have helped underwrite some projects.

Some of Ocean Earth's activities have provoked controversy. Much of this centers on the company's analysis of satellite data, which has not always earned the highest marks.

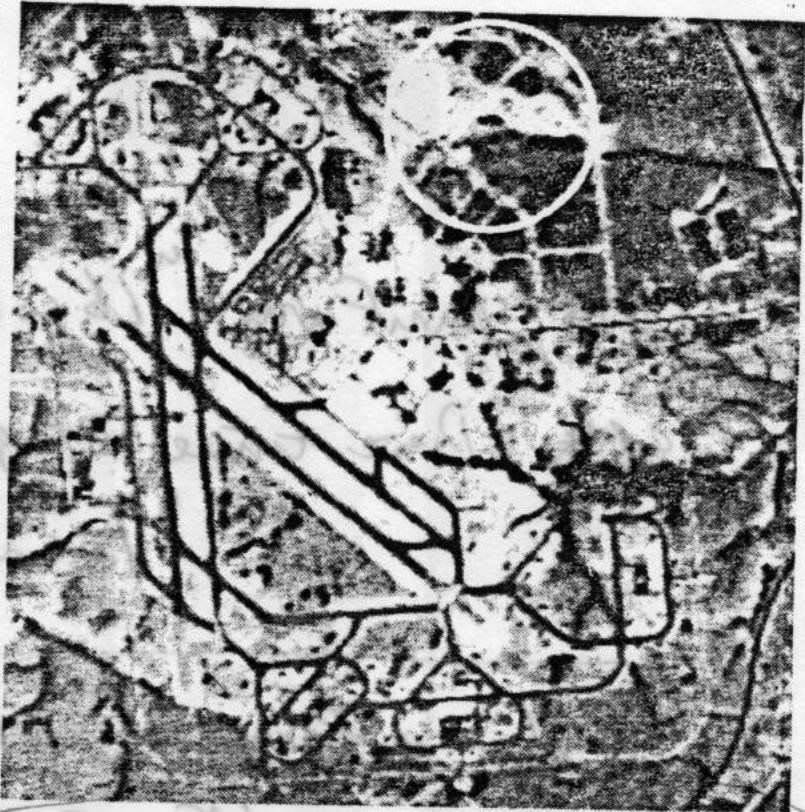
"They tend to be a bit hasty in publishing some of their findings," said one of Ocean Earth's North American strategic advisers. "But if they take enough time, they can be on target."

Others have criticized the clarity of the company's photos, which Mr. Fend admits needs improvement.

YET Ocean Earth's basic concept seems to have been accepted by at least parts of the Western intelligence community. Mr. Fend has managed to assemble a core of military and academic strategic experts in Europe and North America who are willing to study and analyze satellite data.

"Our feeling is that if the material does not compromise security and can be interpreted sensibly to provide better understanding, there is no reason not to make it available to the public," said a British military expert who has worked on several Ocean Earth projects.

The pictures are crude compared with the sophisticated U.S. Defense Department reconnaissance satellites that are said to be able to show people's faces or numbers on license



Ocean Earth identified this Libyan air base near the Gulf of Sidra as the site of an SA-5 installation. It said the missiles were being installed in the circled area.

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quiring satellite data takes time, but thanks to the "open skies" policy then observed by the U.S. government, everything the company wanted from Landsat eventually became available.

The original idea was for the company to take on general projects related to conservation, ecology and land use throughout the world.

But when Mr. Fend wound up with satellite data on the Falklands in 1982, he decided his company could just as easily process something in much greater demand — pictures of war zones. "We knew we had the means to grow," he said.

Though it is headquartered in Düsseldorf and New York, Ocean Earth has done much of its work at the museums, galleries, universities and other institutions where its loosely assembled staff happen to be working.

"One of the American network people told me, 'You guys have put this thing together with baling wire and bubble gum,' which is true," Mr. Fend said. "But at least we're doing it." Last year the company made a \$100,000 profit.

The future, Mr. Fend hopes, will be less precarious. President Ronald Reagan's repeal of the "open skies" law will make it increasingly difficult for Ocean Earth to obtain all the Landsat data it wants. But the company has already contracted to get material from Spot-1, a French satellite launched Friday.

At the moment Ocean Earth seems to have the field to itself, partly because of the difficulty of data retrieval and processing. A typical Ocean Earth project, like its study last year of Soviet SS-20 bases for CBS television in the United States and for Dutch television, takes at least six months.

In addition to dealing with satellite images, the company must work on high-resolution display computers, which allow the data to be mixed and matched in a variety of ways. Aerial radar data can be combined with Landsat data. Where applicable, Magsat data, which reveals magnetic concentrations and mineral deposits, is added. The final pictures come from looking at dozens of images.

plates, all from an altitude of more than 150 miles (245 kilometers).

Yet nonmilitary satellites can provide a good overview when weather and other conditions are right. Mr. Fend said. "We can see enough to let the public know what various governments are doing and whether they are telling the truth," he added.

In many ways Mr. Fend and his company seem unlikely adjuncts to the spy business — as unlikely as Ocean Earth's origins. The company grew out of an art exhibition Mr. Fend held in the late 1970s at a New York gallery.

The show, entitled "Art of the State," explored the notion of artists as Earth monitors, using their visual skills to turn images beamed to Earth by satellite into art.

Mr. Fend founded Ocean Earth in 1980. Ac-