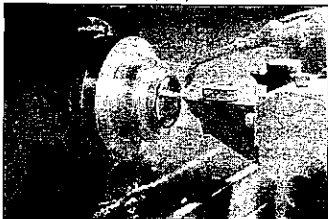


HIGH-END OPTICS, HIGH-END FIGHTING

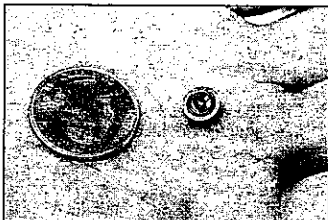


TIM JEAN/Staff photos

Don Gillybody of Ophir Optics polishes a large lens element used to build an IR lens. The lenses are used by the military. Ophir Optics is moving to Osgood Landing in North Andover.



A lens element is turned in the diamond turning department of Ophir Optics, which is moving to North Andover.



A tiny lens built by Ophir Optics shown next to a quarter. The company builds lenses that are used by the military.

Company that makes lenses for the military is moving to North Andover

By BILL KIRK
BUSINESS EDITOR

NORTH ANDOVER — A company that makes infrared lenses for military and civilian uses is moving into Osgood Landing at the end of the month, bringing potentially 100 employees and some high-tech equipment along with it.

Ophir Optics, currently based in Wilmington, is moving to the ground floor of the North Building on the campus of the old Lucent Technologies plant at 1600 Osgood St.

It will be a big upgrade for the firm, a wholly-owned subsidiary of an Israeli company, and a welcome addition to Osgood Landing, which is about to lose Lucent, its biggest tenant.

Ozzy Properties President Orit Goldstein said Ophir's arrival sends a positive signal to other companies considering moving to Osgood Landing.

"We're very pleased that such a high-end and well-established company such as Ophir Optics would move to our facility," Goldstein said. "That is testament to the fact that our infrastructure and building space are second to none and

increasingly relevant in our global economy."

Dennis Cope, president of the optical company, said Ophir has outgrown the 19,000-square-foot space it leases in Wilmington, and is looking forward to moving into the 32,000-square-foot refurbished Bell Labs space at the North Andover plant.

"Ophir has grown rapidly over the past few years and the Osgood Landing location provides us with the room for continued expansion," Cope said. "This site clearly allows us to become more strategic with our planning and manufacturing needs."

Founded in 2003, Ophir Optics currently employs more than 70 workers at its Wilmington plant. Cope expects the work force to grow to about 100 by the end of this year.

He noted that a deciding factor in choosing Osgood Landing was the site's significant electrical capacity. Ophir's manufacturing requires more electrical power than most companies. The Osgood site has the advantage of supplying electricity from two separate power feeds, and

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LENSES: Optics company has military contracts

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the facility can switch from one feed to another in case one has a power outage — something Cope said happens frequently at its current location.

"Maintaining our operations on a continuous basis without being shut down is critical for us," he said.

He also said it was important to be on the ground floor of a building because the high-end optics the company makes require precision tooling with no vibration and maximum temperature and humidity controls.

"The equipment is very sensitive," he said. Plus, the company's clients are very exacting.

"Over 90 percent of our work is for defense," he said, adding the company also is doing work for the Homeland Security Department.

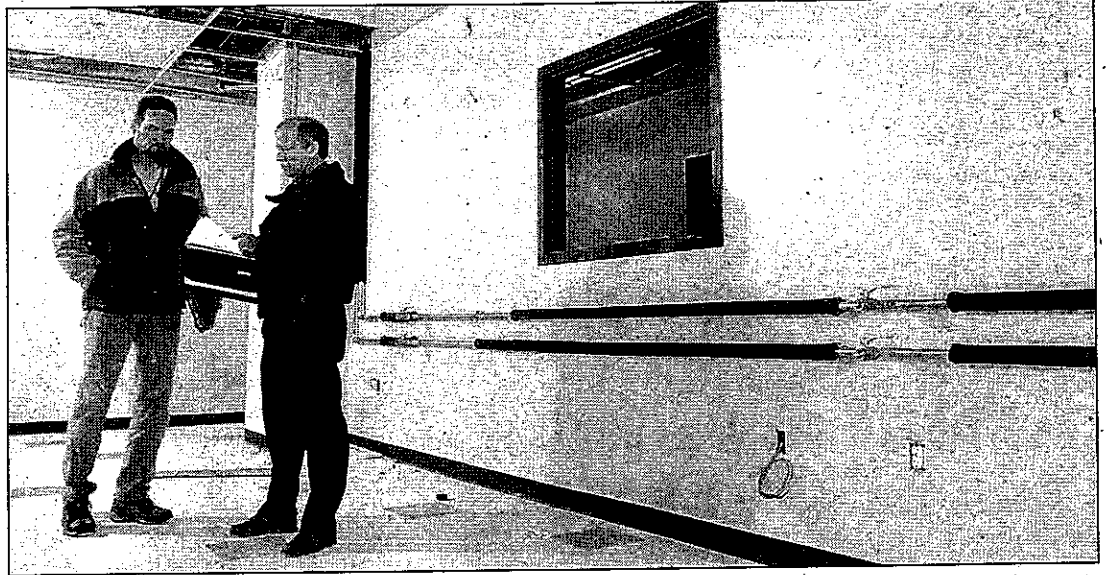
"Almost everything we produce is going to Iraq or Afghanistan," he said.

Ophir's optics are used in infrared scopes mounted to rifles, machine guns, drone aircraft conducting reconnaissance missions and U.S.-Mexican border cameras, among a variety of other devices.

During a tour of the Wilmington plant, Cope and the company's operations manager, Tim Petter, explained how the lenses are made as well as how they are used.

They start as germanium, a diamond-like crystal that allows the passage of infrared light but not light that's visible to the human eye. In other words, the lenses, when properly customized and combined with computerized view-finders or cameras, can help soldiers or law enforcement personnel see people at night or in low-light conditions.

But they can also be used in civilian applications, such as firefighters looking for victims in a burning building. Because they pick up dif-



CARL RUSSO/Staff photo

Dennis Cope, right, Ophir Optics president, and Kevin Ray, Information Technology director, look over plans in the company's new location currently under construction in North Andover.

ferent levels of heat, or heat-signatures, explained Petter, hand-held infrared scopes can be used to "see" a person on the ground amid a smoky, flaming structure.

The lenses are also being adapted to automotive uses, noted Cope. He showed one image on the bulletin board at the company that depicted a street at night through the windshield of a moving car. An adjacent image showed what that same street looked like through one of Ophir's optical devices mounted in the front grill of the vehicle — and it picked up a family of deer crossing the road in the distance.

The manufacturing process starts with the raw material, which is put into grinding machines and shaped into the specifics called for by the client.

In Wilmington, millions of dollars worth of diamond-cutters and other equipment is used to shape the germanium into concave or flat lenses that range in size from a dinner plate to some about the size

of a child's fingernail.

After they are shaped and measured to ensure consistency, the lenses are then polished so that there are no distortions on either side. After being measured again to ensure the faces are flawless — or nearly so — the lenses are treated with a variety of coatings.

Frank Minich, coating manager, explained how groups of lenses are placed into one of two vacuum chambers where different materials are heated so that they evaporate and adhere to the lenses — one side at a time. A typical coating used by Ophir Optics is carbon coating, which he called "the most durable coating in the world." It protects the lenses from a variety of environmental factors, including sub-zero cold, scorching heat, water, sand and just about anything else that could be thrown at it.

The final step in the process is for the lenses to be assembled as a scope or other device, which is then shipped to different compa-

nies that put them together with cameras or mount them on guns which are then sold to the military.

Cope said the company doesn't deal directly with the military, but goes through third-party vendors that sell to the U.S. government. Because the company is owned by Ophir Optronics Solutions, a \$100 million Israeli company, its military lenses, he explained, had to be built in the United States — a federal requirement — hence the continued growth of the company here.

On a visit to the North Andover site — which has been completely gutted and rebuilt to Ophir's specifications — Cope, along with Information Technology Director Kevin Ray, explained that the new facility will be more efficient while also giving the employees more room to move and manufacture the optical devices.

By Jan. 25, Cope said, the entire company will be relocated from Wilmington into Osgood Land-