

THE CORNER SHOP: ON SITE GAS SYSTEMS INC.

PURE CONVENIENCE

Company's Systems
Let Customers Make
Oxygen, Nitrogen

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NEWINGTON — Here's a neat trick: On Site Gas Systems Inc. designs and manufactures equipment that can pull oxygen and nitrogen out of thin air; both of which are valuable products used in many manufacturing applications.

If that sounds incredible, remember that the air we breathe is composed of about 21 percent oxygen and 78 percent nitrogen, said Guy T. Hatch, the company's chief executive.

For industrial use, however, much higher concentrations of one element or the other are often necessary. Oxygen concentration levels, for example, must be at about 95 percent or better to treat raw sewage, weld a steel beam or nurture hatchery fish.

Francis X. Hursey designed a system in the late 1980s that could essentially strip the nitrogen from the air and deliver oxygen at concentration or purity levels appropriate for most industrial uses.

In 1987, Hursey, president of the company, withdrew \$5,000 from his personal bank account, hired two workers and founded On Site Gas Systems. A few years later, Hursey designed a similar generating system for nitrogen.

At a purity of 95 percent and above, nitrogen can effectively suppress mine fires, increase oil production — even prolong the shelf life of coffee, Hursey said.

At the time, most industries bought nitrogen or oxygen in liquid form. It was shipped to their door in heavy steel canisters or cylinders.

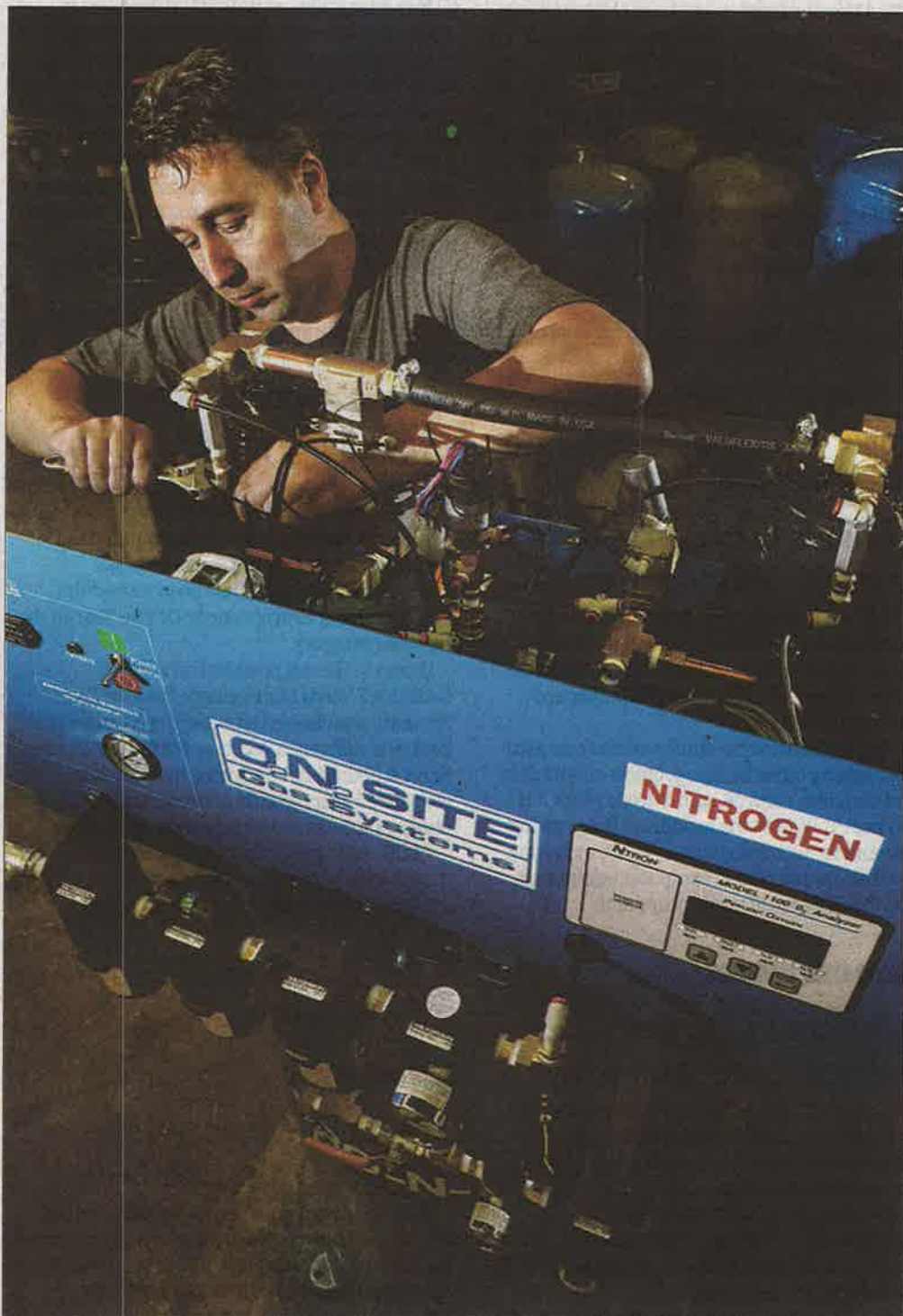
On Site Gas and a few competitors offered a different option — buying or leasing equipment that allowed companies to create their own oxygen or nitrogen supplies on site.

Since its founding, the privately held company in Newington has added more than 40 workers and a manufacturing facility in New Britain. Last year, Hatch said, the company's revenue approached \$25 million.

Despite the economic downturn, On Site Gas and other oxygen and nitrogen supply companies, including its giant global competitor, Danbury-based Praxair, have shown continued growth.

On-site gas generating systems have become more attractive to businesses as the price of energy has increased, Hatch said. Converting oxygen or nitrogen into liquid form requires that it be cooled to very low temperatures, a process that involves a large amount of energy, Hatch said. And as energy costs increased, so did the cost of shipping the canisters.

"We typically tell our customers that our systems pay for themselves in about 18 months and can cut expenses 30 to 70 percent," Hatch said. On Site systems can sell for a few thousand dollars to hundreds of thousands of dollars, depending on the size and application.



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DURIC MIRSAD, an assembly team leader at On Site Gas Systems Inc. in Newington, puts together a nitrogen system. Revenue neared \$25 million last year, chief executive Guy T. Hatch says.

One of On Site's largest accounts is the U.S. military, which buys about 90 percent of its oxygen supply systems. On the battlefield or in remote locations, doctors and medics can't always depend on a shipment of oxygen cylinders to arrive on time. Producing oxygen on site means that patients will always have a ready supply, Hatch said.

The list of uses for oxygen and nitrogen has continued to expand.

Nitrogen, at high concentrations, kills harmful bacteria. That's because without sufficient oxygen, the organisms die — a useful tool for food producers and processors.

In response to environmental concerns, the shipping industry has begun using nitrogen to kill harmful or potentially invasive species that can flourish in a ship's ballast water, Hatch said.

Oxygen also has a host of uses. Adding concentrated oxygen to the untreated "soup" at a sewage treatment plant helps keep the good organisms that munch on waste materials in top shape. Hatchery fish stay healthier and grow bigger when oxygen is added to their habitat.

And NASA's astronauts perform better on spacewalks when they and their spacesuits are "bathed in oxygen," Hatch said. "We were awarded a NASA contract last year. We are now working on a replacement for NASA's current oxygen source."

Back on earth, guests at a hotel in South America have perked up since the owner bought one of the company's oxygen systems, Hatch said.

"The resort is in the Andes at 14,000 feet," he explained.