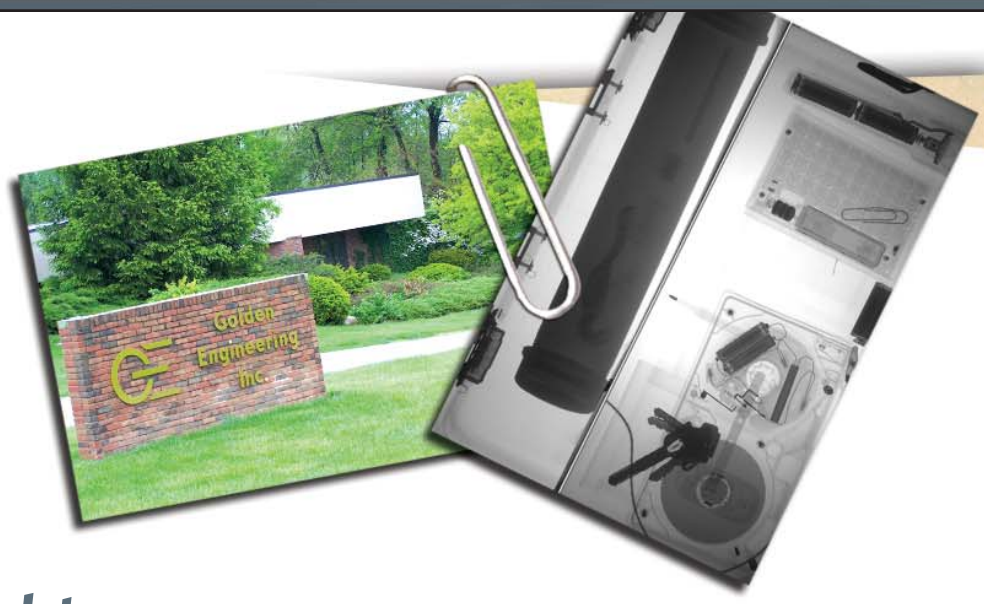

Golden Engineering, Inc.

Shining the Light From Forensics to Pipelines

Company: Golden Engineering, Inc.
Address: 6364 Means Road, Centerville
Telephone: (765) 855-5559
Web site: www.goldenengineering.com
Management: John Golden, president; Roger Golden, management consultant
Employees: Total of 22; 10 are members of the Golden family

X-ray vision:

John Golden was an engineer for Bendix Aerospace in Ann Arbor, Michigan, when he conceptualized a portable X-ray device. During that period, he also started his own machine shop – which became a full-time endeavor. When Bendix decided to get out of the portable X-ray business, the company referred all of its customers to Golden, who founded Golden Engineering in 1973. Eight years later, Wayne County, Indiana, became its headquarters when John and his wife returned to her hometown upon inheriting some farmland.

The machine:

Golden Engineering is the world's only manufacturer of portable X-ray equipment. The battery-powered product line includes the XR150, XR200 and XRS3 models, which range in price between $3,500 and $4,500, depending on the make and accessories. (For unique situations, units are also available for rent).

The latest addition – the XRS3, which was developed in 2001 – offers the most penetration – going through one inch of steel to obtain an image. It and the XR200 weigh 12 pounds each, including the battery pack. Meanwhile, the XR150 is only five pounds total and designed for remote location use. An added safety feature: the machines contain no radioactive material. Radiation is produced only when they are in use.

The captured images can be viewed immediately with a digital inspection system and within two minutes when using Polaroid film.

Since Golden Engineering is the lone supplier of this type of X-ray equipment, they also do any necessary repair work customers may need. On the production side, 30 XR200 models and 24 each of the XR150 and XRS units can be turned out in a given week.

GOLDEN ENGINEERING, INC.

Common applications:
Golden's portable X-ray machines are used for a variety of security and industrial purposes.

Whether it's in bomb detection or a criminal investigation, use by police departments or security personnel ranks number one. Within that group, an increasingly popular niche is forensics, particularly arson cases. "After a fire, they will have a melted toaster or something, but there's no way you can see what happened inside of that unless you destroy it. However, if you destroy it, you've destroyed the evidence," Roger Golden explains.

"With an X-ray, they can take a picture of this melted glob of plastic and see if something shorted out inside or if the product was defective."

Before and since 9/11, Golden Engineering has played a part in the anti-terrorism efforts of many city and state governments, as well as components of the federal government. "Probably every city that has a couple hundred thousand people has one of our machines," Golden notes.

Because of the company's presence in these major cities, a tremendous spike of new purchasers didn't really occur after 2001. "We'd been around almost 30 years at that time, plus the X-rays last quite a while – 15 to 20 years in many applications – so it's not like you normally have to buy them every few years. A lot of people that needed an X-ray already had one."

What did happen was the increase in interest from smaller cities. "For instance, take Anderson. An Indianapolis bomb squad would probably service them in the past, but after 9/11, people were on edge and suspicious of things that they wouldn't have been before," Golden explains. "This resulted in Indianapolis being a lot busier, so normal bomb squad response time that previously was one hour might have turned into four hours. So, they looked to us."

Beyond security, quality control measures are top of mind for several customer segments.

One of the most fervent users of the portable imaging machine is the Alaskan pipeline worker, who utilizes the equipment as much in two weeks as another user might in two decades. "The pipeline is covered in insulation, so they need to X-ray through that and look at the outside of the pipe for corrosion," Golden states. "If they see that, then they tear the insulation off at that area and do a repair."

Additionally, large manufacturing companies that turn out large parts or finished products, such as a refrigerator, use the X-rays as a primary means of inspection. So do power companies checking for breaks along a line.

The unexpected:
Given its portability, the use of the X-ray has cropped up in a variety of interesting fronts. For example, when Blackbeard's ship was discovered off the coast of North Carolina a decade ago, there were crustaceans caked on cannon balls and other artifacts that needed special handling. "To see what they were doing, because they didn't want to destroy the actual artifacts, they used our X-ray to take an image to see how to proceed," Golden recalls.

Back on dry land, the call of the wild is also met. It could be a situation of distress in which a machine is used to examine a horse's leg right on the spot or identify what's caught in the throat of a tortoise from a zoo.

"Really, you can't even list the uses or buyers like a normal market because there are just so many odd possibilities, and with the Internet, they can just look up 'X-ray' and find us," Golden declares.

Scanning the globe:
Customers come from across the U.S. and Canada, plus the overseas

Past and present: the Bendix portable X-ray prototype (right) and Golden's XR200 model, one of three in its product line; company management consultant Roger Golden.

market is also a major one, with almost one-third of total sales being international. Golden says the only region in which sales are not "real big" is South America. Overall, the company has 35 to 40 dealers throughout the world.

Golden Engineering didn't start out with plan for exporting, but the opportunities arose quickly as a result of one of the company's first sales.

"We had sold to someone in the U.S. government, either in military or security, who then talked to someone in the Dutch government who needed an X-ray," Golden explains. "Then someone had a relation or a business associate in Israel, and this was in the '70s when that country was dealing with a great deal of terrorism. That's how it all got started internationally – by word of mouth, which has happened a lot in the U.S., too."

Staying the course:

Golden says the company's concentration going forward is "to stay focused on what we do and find more people who would benefit from and can afford our products.

"For example, using the machines in forensics only came about in the last five years. It's a great application for the product, and the people in that work are really happy with it," he adds.

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>
> *— Roger Golden*

"We don't know what else is around the corner, but I'm sure other opportunities are there.

At the same time, the company is keenly aware that a portable X-ray isn't a product for the masses. That fact, coupled with Golden Engineering's more than 30-year reputation of satisfied customers, has actually aided its success by making the market unattractive for would-be competitors.

"We realize that we're quite blessed to be in the position that we're in. I think there are things we've done well. I think there are things we could improve on," Golden shares.

"What customers want, just like with anything else, is more power and more convenience. We did that with one machine, but now they want one even more powerful. So, we are trying to increase the product's penetrating capability and also make it even more compact."