

# UT offers Sunlight Direct bright ideas

The MBA program at the University of Tennessee College of Business Administration has partnered with Tech 2020 to let students tackle the challenges faced by start-up businesses. Last fall, they worked with Sunlight Direct, which produces rooftop units that allow sunlight indoors while filtering out heat and ultraviolet rays. The company asked students to help as it prepares to take its product to market.

**The students:** Cai Rangduanzhi and Jason Trusley, under the direction of faculty adviser Glenn Swift.

**The company:** Sunlight Direct's solar lighting system uses a solar collector akin to a satellite dish to concentrate sunlight into optical fibers that screen out heat and ultraviolet rays while providing natural light indoors. The optical fibers are strung into buildings and meshed with conventional lights. A control system allows the lighting systems to work in tandem, with regular lighting taking over when it's cloudy or nighttime.

**The issue:** Sunlight's system costs \$20,000 per 1,000 square feet in-

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stalled, and it's new. The company needs to identify potential customers and determine how to turn interest into sales.

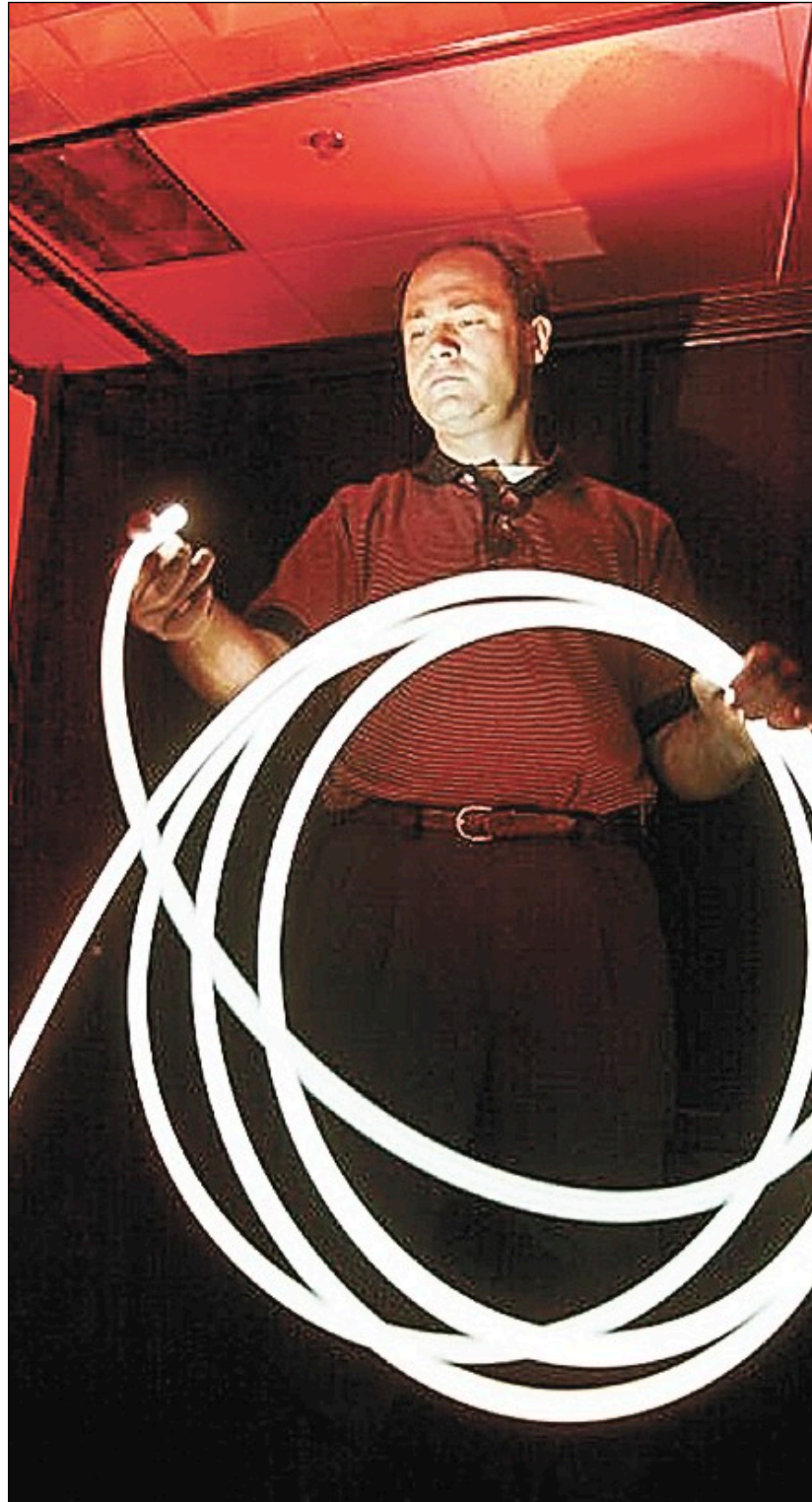
“We knew we had a great product, and we've been working to lower the cost of producing the units. But we needed help figuring



**Morris**

“Our need at the time was to do a market opportunity analysis — to look at potential markets for our technology and see where it applied. ... We needed to find out what any business struggles with in the beginning: the value proposi-

tion. And we needed to find out whether customers valued sunlight coming into their space. Did they perceive an increase in sales? Did they see that as an energy savings? And what kind of value did they place on that?”



SUNLIGHT DIRECT

Duncan Earl is the chief executive officer of Sunlight Direct, a solar lighting system that uses a collector to concentrate sunlight into optical fibers that screen out heat and ultraviolet rays while providing natural light indoors.

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**SUNLIGHT DIRECT LLC**

■ **Address:** 1020 Commerce Park Drive, Suite G, Oak Ridge, TN 37830

■ **Founded:** 2004

■ **Product:** Lighting system that captures sunlight and illuminates optical fibers to provide natural lighting indoors.

■ **Principals:** CEO Duncan Earl, an Oak Ridge National Laboratory researcher; President John Morris, who founded NetLearning, an education software firm sold to Thomson Delmar Learning in 2004.

■ **Timetable:** Commercial product expected by early 2007.

■ **Phone:** 865-483-6624

■ **Web site:** www.sunlight-direct.com

or Target.

Using the students' research and adjusting for parameters of the technology (it runs about 45 feet, which makes it most-usable for one-story buildings), there's a potential \$8 billion market for Sunlight's product. That includes clothing, jewelry and furniture stores as well as florists. It doesn't include big-box retailers or utility companies, which have potential, too.

In the second phase of their study, students surveyed large retail chains in clothing, jewelry and furniture sectors, gauging interest among those companies' energy managers and lighting designers.

“Those surveys gave us some anecdotal information about what people are valuing in those markets. As an example, they gave us a specific return-on-investment period that we needed to meet: Five years. So we know anything less than five years they're going to seriously consider.”

Students also advised that the utility market, while it remains a key partner for Sunlight as it ramps up, isn't likely to be a high-yielding sales target since utilities' interest lies in saving power during peak periods. Such savings won't become more likely until there's more widespread use of Sunlight's units.

**The result:** “We agree with their market observations and are now working with those customers in our personal sales efforts,” Morris said. “It laid a foundation for our marketing efforts.” The company has 10 test sites nationwide.

— edited by David Keim