Optical materials is no small business—An interview with Amy Eskilson

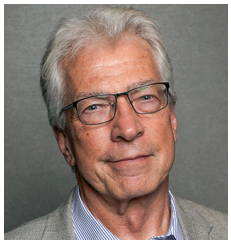
I have known Amy Eskilson since her days in marketing and business development at Thorlabs in the early 1990s, so I was delighted when she gave me the chance to ask questions about her role since 2012 as president and CEO of Inrad Optics in Northvale, NJ. I wanted her to share some of her insights from building and competing as a small business in the photonics community.

Inrad Optics grows and fabricates optical materials such as nonlinear crystals, electro-optical devices, and metal optics, and incorporates them into optical components, assemblies, and systems.

Conard Holton: What was the company like when you first joined and what changes have you made?

Amy Eskilson: We were a markedly different organization when I joined. At the time, we were still known as PPGI, or Photonics Products Group, a name which is impossible to create an impression around. I remember touring a facility with a GM and he asked me three different times, "What's the name of the company you are working for?" I knew then we had a significant brand issue. We did a market study and found that the original Inrad name still was well known and highly regarded. The other sub-brands we were using did not have any serious brand equity. Fortunately, I had great support from our then CEO and Board to rebrand the entire organization as Inrad Optics.

Operationally, in the years following the 2008/2009 economic recession, it seems we were an overly broad and reactive organization, supplying both commodity optics and niche products to the marketplace. This clearly was not a strategy for long-term success. In 2014, we consolidated our Florida facility into our main New Jersey location as a cost savings and efficiency move. We predicted we could save nearly $1 million/year and those numbers have proven to be accurate. In 2015, we began a program to proactively target and capture business uniquely suited to our strengths and expertise. We have improved our value proposition to the marketplace, and 2018 results are validating the strategy.



CONARD HOLTON
is Editor-at-Large for *Laser Focus World* and Chair of the Lasers & Photonics Marketplace Seminar; he previously served as Editor-in-Chief of *Laser Focus World*.

CH: You moved to Inrad Optics after many years at Thorlabs—what lessons from there did you find especially valuable at Inrad?

AE: Everything I learned during my 18 years at Thorlabs has informed my experience at Inrad Optics. I was fortunate to have had a truly exceptional learning experience there. One thing that stands out was that it is much easier to build a business from the ground up than is it to restructure and grow a long-established organization. In some ways, Inrad Optics was more focused on procedure than performance. And I was a bit naïve about how big a challenge I was facing.

Equally important was that in my last 10 years at Thorlabs, I had the pleasure of working with several startups to get their products to market and establish a market presence. This continued on page 94

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experience proved uniquely valuable, as each was different, and several were specialized and similar to the business model of Inrad Optics.

I also learned a lot about grit, about persevering, and believing that even when common sense says the answer is no, it might actually be yes.

CH: ***You and I have often talked about the challenges of succeeding as a small, highly specialized firm in photonics—what are some of the lessons you've learned?***

AE: Most importantly, I've learned that just because you can, it does not mean you should. My team is passionate, engaged, and experienced. We possess a broad set of capabilities. Sometimes, it's hard to keep the organization focused on what will create healthy, recurring revenue when potential customers come to us with interesting projects.

Amy Eskilson

It's important to find market needs that match your skill sets at present, while planning for the company you want to be in the future. You need to help your team balance the two often-competing forces. I have found that building a robust and collaborative leadership team is so important. We have a strong team in place, and our customers see this in action, and it absolutely makes a difference.

In addition to a strong leadership team, I have always believed that company culture drives performance. We have worked hard building a culture that values every employee's contribution. Every individual in our small organization is essential to success, whether they are in a production role or in a support function. I make sure our employees understand that we are, quite literally, all in this together.

CH: ***How does Inrad Optics fit into the security and research landscapes and how do you think these markets will evolve in the future?***

AE: Interestingly, Inrad Optics has always been about safety, security, and R&D in the photonic materials space. It's this legacy that makes me optimistic about our future. Security applications will be a key area for photonic tools and systems.

We are well positioned to help customers take on the challenge of 21st century security concerns. For example, we have had great success in developing Scintinel stilbene, a crystal for nuclear threat detection. We are offering packaged detector assemblies for easy integration. The material continues to prove itself in both laboratory and field tests worldwide, and we are having good conversations with potential commercial partners at the systems level.

Quantum technologies will continue to evolve over the next five years, and sensing applications may likely see the fastest adoption. We are already working with quantum application laser companies on requirements for nonlinear materials with tighter specifications and enhanced performance.

I had a recent conversation with a quantum science researcher who believes that Inrad Optics' long expertise in the growth, fabrication, and optical behavior of nonlinear and other sensing materials will prove important to the community developing materials for quantum structures. That's exciting!

CH: ***And what products are exciting you and your colleagues at present?***

AE: We are having success in three areas we targeted. We've built a dominance in the bent crystal x-ray monochromator market with our singular expertise in this area. As nanoscale surface inspection applications broaden, we see increased opportunity for our unique technology. As an example, we are working on a Phase II SBIR contract using the crystal KAP for soft x-ray applications.

We have also expanded capacity for production of large form-factor, exceptional surface-quality interferometer and transmission flats. We are serving both the semiconductor tool market and the metrology tools market with a flawless product set.

Our newest product is definitely exciting for everyone at Inrad Optics. We are producing high-complexity subsystem assemblies, including powered/heated window assemblies for airborne applications. This optomechatronic product area is an important part of both our current and forward strategy.

CH: ***Inrad Optics has been a publicly traded company since the early 1990s. What has that meant for you and the company?***

AE: We certainly do have an unusual financial model for a small business. As you mention, the original Inrad organization went public a long time ago. While it's not an ideal situation for our business, changing the structure isn't as simple as it might seem. We do have increased accounting, auditing, and reporting costs, but the reporting detail required provides both a discipline and a visibility into costs that other small businesses often envy. We also have a supportive, small group of long-time investors, and I appreciate that very much.

CH: ***Are you able to find and hire the workforce you need? How do you retain your existing workforce and prepare it for the future?***

AE: Workforce development is our most pressing challenge. This is most pronounced in the area of optical fabrication technicians. I feel fortunate to have hired three skilled opticians last year. We offer an environment where there is opportunity to contribute and grow. We are also working with a consortium of New Jersey optics companies, led by my former employer, to offer an optical technology AA and certificate programs at a New Jersey community college. This program is receiving great support from the college and has been fast-tracked to begin this fall. ◀