Global thinking tackles the skills shortage in the photonics industry

Overcoming the skills shortage in the photonics industry pushes companies to recruit internationally. **Per Stenius**, CEO of Liekki Corporation, describes how a smaller high-tech firm approaches this challenge.

With a PhD in quantum optics and a masters in economics, Per Stenius has both the technical and business knowledge that seems to be in short supply in the photonics industry today. Stenius is a partner in Stratos Ventures, a venture capitalist firm that invested in Liekki when it was founded in 1999. He was appointed chief executive officer of Liekki in 2003, with the objective of turning the company around after the telecoms bubble burst.

Liekki Corporation

Per Stenius, CEO of Liekki Corporation (middle row, centre), with his international workforce.

Why is there a lack of skilled workers in the photonics industry?

Making a laser is becoming increasingly challenging, as more sophisticated integrated technologies, such as disk and fibre lasers using very advanced components, are brought to the markets.

We are seeing the same kind of development in the photonics industry that we saw in the electronics industry. Today, semiconductor circuits are very complicated; few people truly understand all of the details, and only a handful of large companies can produce the most advanced chips. I think that the depth of knowledge and breadth of skill required is increasing in photonics, and more experts are needed. Many companies are finding it challenging to build sufficient depth and breadth across technologies required for their advanced products.

What is the solution to this shortage?

For us, the only solution is to recruit internationally – you have to look at your available skill pool on a global basis and adapt to that situation. It seems that more and more companies recognize that the war for talent is on-going on a global scale. We have to embrace a multicultural approach if we want the best teams. From an EU perspective, collaboration between European countries is absolutely crucial to stay competitive. But I would say that we need to go even further than that – European collaboration is only the first, albeit crucial, step.

Fortunately we are seeing a migrating expert population especially in smaller high-tech companies, such as Liekki. They take on the world when they hire, not just a specific country.

How does the shortage affect Liekki?

Recruiting is no longer as simple as posting an advert in the local newspaper. We now require a much broader approach and use a multitude of channels.

It is difficult for a smaller start-up company to have a dedicated human resources (HR) team, but a good HR process is crucial for international recruiting. Despite being a fairly small company with about 40 employees, we have ended up employing people from China, Romania, Russia, the US, Germany, France, the UK and even India. HR has had to handle the recruiting process including immigration laws and the various regulations that apply.

Given that we need to compete on a global basis and build a globally leading team, we need to invest in the right resources. We learnt this the hard way, by experiencing the telecom bubble burst and emerging on the other side. We became aware of where to look for the talent that we needed to transform the company.

Early on we found that some of our domestic employees felt annoyed that we were recruiting externally and abroad for certain specialist positions. They couldn't understand why Finnish people were not filling these positions. Nowadays, they've learned that these recruits bring a lot of expert talent to the table, are dedicated to their job and also add a taste of their culture to the company.

At Liekki, we like people with business savvy who also have a strong technological spike, however this is hard to find. Since fibre-optic technology is still developing rapidly, we have more need for in-depth technical knowledge in the sales process than many other businesses.

Is there a country or region that produces more skilled workers?

No, I think that every region contributes something. Finland, for example, produces a lot of good fibre manufacturing process and equipment people, and quality assurance people, but we are still fairly weak on the photonics applications side.

There are massive centres such as Jena, Germany and Southampton, UK, where there is a really broad spectrum of photonics and optics knowledge. In France, we find a lot of good laser application knowledge, and in India we find interesting fibre manufacturing knowledge.

How does Liekki ensure that it hires the right people?

We have built a network of recruiting channels both locally and abroad. We are very active at conferences, we advertise in speciality magazines in all regions and use the web to reach a global audience. A key part of this is our close ties with select universities and key professors around the world. To ensure that we have a supply of junior resources we have professors in Germany for example, who send interns for project work at Liekki. We also hope to hire some of these when they graduate.

To achieve a rigorous process for hiring, our staff must put in a fair amount of their time assessing new candidates. We also follow a structured approach in reviewing background material and references. Doing this on a global basis has its own challenges, but we feel that the process is working well.

We encourage a company culture that embraces all nationalities, so that people have an easier time adapting to their new environment. We assist with both paperwork and practical aspects, such as finding a place to live. All of this leads to greater productivity and job satisfaction. Having brought many different nationalities to this community has helped the company develop, and I think that our staff today appreciate the global environment that our company offers.