

Knowing the needs of academia and industry aids tech transfer

Transferring technology from academia into industry is not an easy task, even for a commercially orientated research unit like Strathclyde University's Institute of Photonics, UK. *OLE* speaks to the institute's business development manager **Simon Andrews** to see how it approaches the challenge.

The aim of the Institute of Photonics (IOP) at Strathclyde University is to bridge the gap between research and industry. Established in 1996, the IOP focuses on industrially relevant research and employs both a chief executive (CE) and a business development manager to ensure that its research is exploited to its maximum potential. Having worked in both academia and technology-hungry companies that have placed contracts with universities, Simon Andrews is perfectly placed to see things from both sides and foster precious relationships with industry.



Bridge builder: Simon Andrews of Strathclyde's IOP.

What does your role as a business development manager involve?

My role includes liaising with industry; understanding what technological challenges they see ahead and feeding this back to our senior researchers; marketing the institute to raise its profile; and ensuring that we make good use of the intellectual property that we generate. I also try to find companies that would benefit from the results of our research. We build expertise in particular areas and then approach companies that we could help.

Another important aspect is that we have a CE rather than a head of department. We are also fortunate that our senior researchers have experience of working in industry, but if I, and our CE, can take some issues out of their hands, they can spend more time doing research.

How does the make up of the local industry affect technology transfer?

The main hurdle is that universities have more ideas than there are company resources to take them on. Here in Scotland, we have a thriving photonics industry but it is dominated by SMEs and there are a finite number of companies with the resources to take things forward.

Big companies are easier to work with. If they want to do something, they have the time and money and can plan ahead by putting things into next year's budget. They work on timescales more in tune with how universities recruit and retain staff.

SMEs tend to want someone in the

near term to work on a short project for a few months. In comparison, university researchers are committed to full-time programmes lasting up to three, sometimes five, years. An SME can also change direction in a few months. We try to be flexible enough to deal with these aspects and are constantly looking at innovative ways of improving our relationships with SMEs.

How does the Institute of Photonics promote technology transfer?

The obvious route is for two or three researchers to form the core of a spin-off company, but if they come from a small research group, then the group will disappear. We prefer to spin the technology into existing companies. We must be realistic and understand that we can take a technology only so far before industry has to step forward and pick it up. There are limitations within a university environment – we don't have money to do genuine product development, for example. We also have to publish and establish our reputation for excellent research.

How does the IOP make the most of the university's resources?

In many ways. For example, by working with the world-leading Strathclyde Business School, we collaborate with its international marketing students who are taking a postgraduate master's degree. Most recently, we had a dental-imaging

technology that we wanted to move forward, and filed a patent for. The students investigated different international markets, looked at competitive technologies and how receptive different countries are to new products, producing a report that made an ideal first-stage business plan.

I would love to see universities go beyond this. There is an entrepreneurial network at Strathclyde that tries to help alumni start businesses. You can also imagine forming a team with members from many departments – of say, accountancy, law, marketing and engineering – working closely with a range of science disciplines towards commercialization of our research.

How relevant is timing to technology transfer?

Our researchers are hopefully working on ideas that will be industrially relevant. Timing is important. We made great progress with telecommunication wavelength VECSELS and, if we had established the technology sooner, we would have caught the peak of the telecom boom. We persevered and took the long-term view that VECSELS were going to be valuable and significant. We generated funds to do strategic research, and today industry recognizes our expertise and wants to work with us.

We have an industrial membership programme and have created a group of companies with an interest in photonics. The idea is that they talk to each other, not just to us, and get technology transfer going. Our membership includes AstraZeneca and Thales, which wouldn't otherwise sit together in the same room – but they may both have imaging problems that they are trying to solve. We hold seminars to let them know what we are doing. It is good to hear from senior people who can give us insight into the needs of industry. We try to be a step ahead and work out what industry will need. If it is for a product that industry needs in six months' time, then it is a development job and university is not the best place for it. We try to look further ahead for the next big thing. That's what makes bridging the gap from industry to academia so exciting.