

PUTTING A COMMERCIAL SPIN ON RESEARCH

Excellence in academic research underpins many of Britain's universities. Yet much intellectual property only finds its true value after commercialisation. **Ian Leech** looks at the challenges and growth story of spin-outs in Yorkshire

Successful spin-outs drive productivity and draw attention to a university, attracting more talent in the process. They also confirm a region's specialisations or introduce the world to its new capabilities.

Yorkshire has a solid track record of successful companies that were started in academia. But for every one that forces a global market disruption, there are many more that find the going harder.

To make the most of an opportunity an effective spin-out needs to bring together various assets and resources to commercialise the intellectual property, most likely money, specialist management and facilities such as laboratories. The path from lab to industry is time-consuming. A decade to reach the stock market is fairly common, and for drugs, the additional hurdle of clinical trials means the commercialisation process takes even longer.

Incanthera was formed from Bradford University's Institute of Cancer Therapeutics to progress drug programmes through to early human clinical trials, to obtain vital safety and efficiency data, and then to commercialise the product through licensing deals with pharmaceutical companies. The company operates 'virtually', meaning the core management team coordinate and direct a team of researchers on contract.

This summer Incanthera became one of the first companies to receive investment from Race to Scale, a £100m fund launched by private equity firm IW Capital and crowd-funding specialists Crowdfunders. Despite that, chief executive officer Simon Ward says the funding landscape is fairly bleak.

"The UK is pretty much bereft of funding. In the early days you are quite limited where you can go. There was the European Regional Development Fund and the Yorkshire Fund. They could get you going, but the real challenge is the next step. It can cost up to £1.5m to go to pre-clinical trials. You typically have to go for venture capital and that has started to dwindle. Biotech seems to go first though because of the high-risk element.

Ceramics consultant Dr Anthony Pick and XeraCarb's Dr Hywel Jones collaborating on ceramic armour



"We are getting close to clinical trials, for which we need a lot of cash. One way to breach it is to get ready for a listing. We will step up to AIM as soon as the markets are receptive. To do that you need a pre-IPO round and to pay consultants to help you make the jump."

Ward still heaps praise on Bradford University for focusing on applied technologies at a time when most universities were preoccupied with publishing academic papers. Ward says the university populated the institute with top class academics, including professor

Laurence Patterson, its director for drug discovery. The university still has a place on the Incanthera board.

Dr Hywel Jones maintains his role as a researcher at Sheffield Hallam University while also trying to grow two university spin-outs: XeraCarb, which makes lightweight body armour, and Mikana Innovations, which produces mixed metal products for use in a range of sectors including jewellery.

"I like to think you can retain your academic job but also enjoy the commercial bit if you have the team," he says. "Spin-outs

are beneficial to the university and give you the Research Excellence Framework impact. Nothing ever comes out of the lab fully formed, so it is important to have a continuous relationship with the university. The university also has equipment that you can continue to use."

XeraCarb, based in Barnsley, is a spin-out from Hallam's Materials and Engineering Research Institute (MERI). The company looked to overseas markets as the Ministry of Defence (MoD) is not a major procurer. "It has been a huge learning curve understanding the armour markets and just what people really want," says Jones. "You are dealing with different languages and testing procedures. There is always a nagging doubt for buyers about quality and where the products have come from because this stuff is just too important for it to go wrong."

"We have still not broken into the armour market as we might have wished. But are we still around three or four years later? Yes. Are we making repeat sales? Yes. We try to make sure people are aware of our materials and finding new uses and growing sales is important. And we continue to be heavily involved in research and development."

At the outset, XeraCarb benefited from MoD funding that was looking for lighter armour. It was given follow-on contracts to produce items of different shapes and sizes. And in 2011 we won the prestigious national Armourers and Brasiers Venture Prize.

The £25,000 prize wasn't massive but proved to be a catalyst for the business to spin-out. Seedcorn funder Finance Yorkshire then heard about them and invested. The company was incorporated in 2012.

The Leeds-headquartered Real World Group (RWG) is a leading authority in leadership, equality and diversity, and organisational culture. It was a spin-out from the University of Leeds by husband and wife team Dr John Alban-Metcalf and Beverly Alimo-Metcalf following the publication of their ground-breaking study, *Engaging Leadership*. But despite the kudos of the study, it doesn't follow that world-class research makes for a commercial success.



Alex McWhirter is chief executive of Finance Yorkshire, which invested in XeraCarb. His view and an academic's opinion on what wealth a spin-out might create are often very different.

"They are pumped with enthusiasm of what they are doing and think their idea or product will change the world in just months, but their valuation is always more than what an investor might put on it," he says. "Spin-outs always benefit from bringing in hard-nosed senior managers from industry. You can think your idea will change the world, but unless you have the right team to exploit the technology and understand the idiosyncrasies of business it won't work. There is no silver bullet to what might work or not. Each one is different."

Justine Andrew, director and public sector specialist at KPMG in Yorkshire, says universities can differ widely in their encouragement of spin-outs. "There are universities that foster a spirit of entrepreneurship from undergraduate level up and bake it into their curriculum, and there are those that don't."

"To foster spin-outs successfully, this spirit must inform the research environment, its people and its outlook. Establishing commercially viable spin-outs is possible – universities just need a watertight business plan and the ability to put it into action. Across the north we need to work harder to achieve true collaboration between business and academia to deliver the commercial innovation we know exists."

SUCCESSFUL YORKSHIRE SPIN-OUTS

COMPANY	SECTOR	MARKET CAP
Tissue Regenix	Meditech	£140m
Tracsis	IT	£148m
Avacta	Biotech	£61m
Xeros	Cleantech	£200m
Diurnal	Biotech	£74m

Their daughter Juliette Alban-Metcalf is now Real World Group's chief executive. She says: "The biggest challenge is being commercially savvy in the first years out of university. The recession struck in 2008, but we didn't have any marketing collateral. We were naïve and should have made hay while the sun shone. So we had to shrink."

"Now we are focusing on a new website and increasing our social media presence. That's always a missing link for spin-outs. They fail because they don't have the commercial acumen or sales and marketing budget. Many that started at the same time

as us have just disappeared. Some of them were very successful once too. And it is imperative that you get an investor to believe in you."

RWG did just that. Business angel and mentor Rachel Hannan became a board adviser in April 2014 and took over as chair in January 2016.

Alban-Metcalf says: "Rachel invested in us because we

did not spend enough time and resources publicising ourselves. We get invited to speak on Radio 4 and at national conferences, but didn't tell people that enough. And we are now working in Germany, Russia and on a Mandarin version in China.

"We should be bigger and more successful than we are because our products are world class. But it is a very crowded market and as a small company we are coming up against inferior products but they have better marketing than us."

She learned a lot from doing a Masters degree in the US, she says, adding that RWG relied too heavily on the public sector for contracts. While at Case Western Reserve University she said she learned the importance of strategy, returned back to the business and questioned why they were spending so much time on consulting.

"We rebranded in 2009 as RWG," she says. "People thought we just did leadership research but we wanted to demonstrate that we translate academically proven knowledge into organisations. That is our USP. We are now working in all sectors."

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Juliette Alban-Metcalf