

Case Example: Polarmetrix Ltd

Polarmetrix Limited (Company No 4583544) was incorporated in November, 2002 to exploit UK Patent No 0112161.5, a technology designed to determine the spatial distribution of transverse strain. It is located in the University of Surrey's pre-incubator on the Surrey Research Park at Guildford in the United Kingdom and was founded by one of the University's faculty, Professor Alan Rogers, and an alumnus of the University, Brian Cox. Professor Rogers is an internationally renowned expert in the field of optical fibre polarimetry, having published over 190 academic papers on the topic. His most recent work, relating to the measurement and profiling of polarisation mode dispersion (PMD), was funded by a major grant from the Engineering and Physical Sciences Research Council (EPSRC). Brian Cox is an engineering graduate who has spent 15 years in the commercial field of high technology sales and marketing, specialising in the industrial markets relating to data acquisition and process control. He has recently completed an MBA at the University of Surrey and, in his role as Operations and Commercial Director of Polarmetrix, he is responsible for developing the company's business plan and securing funding. In the longer term, once the business is fully established, he will take responsibility for running the company and its commercial activity with customers, collaborative partners and suppliers. Professor Rogers will act as Technical Director, having responsibility for technological development, technical product specification and research.

The technology that Professor Rogers has developed is directly applicable to a number of markets. Since it measures transverse strain it has wide-ranging applications in the monitoring of directional stress in a variety of structures and the founders believe that there could be significant market opportunities for the company in the telecommunications testing, security (perimeter fencing), petro chemical, civil engineering and aeronautical markets. These are enormous markets. For example, the perimeter security market in the US alone is worth an estimated \$40 million per annum with typical contracts in excess of \$1.5 million. Traditionally such industry sectors have relied on discrete point sensors to translate the measurand into a signal that can be digitally transmitted and processed via opticle fibre. Rogers' invention enables the sensor element to extend along the whole length of the fibre, producing a fully distributed sensor element. Thus the optical fibre becomes both a transmission mode and a sensor, thereby eliminating the need for additional manufacturing processes, reducing the opportunity for error and permitting continuous monitoring over the whole length of the fibre. At the time of incorporation, the theory and concept had been proven with respect to telecommunications testing, but not for the other potential markets, and Professor Rogers had published the results of his research.

The global market for telecommunications test equipment is relatively mature with approximately 66 per cent of the market being accounted for by the top five companies, Agilent, Acterna, Anritsu, Rhode and Schwarz and Tektronix. All of these tier one companies operate in multiple segments, have solid financial backing and possess the requisite R & D facilities to enable them to take advantage of new technology as it advances. In the security market, a sector that has received renewed interest following the recent terrorist activity, there are a small number of companies in the fibre optic perimeter monitoring market, namely Fibre Sensys Inc, Magal

Security, Senstar Stellar and Future Fibre Technologies. Interest has been expressed in developing the technology by Senstar Stellar and Fibre Sensys, as well as Advanced Perimeter Systems Ltd. Fibre optics is already well-established in the petrochemical market for pipe and bore hole monitoring, though none of the current systems is fully distributed. Major companies in this field are Sensa, Sabeus Photonics Inc and Sensonet Ltd, but interest in the technology has been shown by BP, Halliburton and Chevron Texaco.

The business has been established with venture capital received from the University of Surrey Seed Fund and the founders predict that this will cover the period from incorporation to April 2003. During this period, Rogers and his research team will progress the theoretical implementation of PMD measurement through to the development of technology demonstrators, for the purpose of both proving the concepts employed and for demonstration of practical systems, while Cox will develop the business plan and secure further funding. Although positive feedback and commercial interest has been received from organisations in the security, petrochemical, aerospace and telecommunications markets, it is not expected that any significant sales will be realised during the first financial year of operation. Hence, a further injection of funding will be required from April 2003 on and the founders are actively seeking financial support for their project.

Case Example Exercise.

You are Brian Cox. Identify the potential sources of funding available to Polarmetrix and prepare a short “elevator” pitch to attract potential investors. Read Chapters 4 (pages 84-89) and 10 (pp.260-265).