

## Sector Track Record:

# Life Science Research

The life sciences research (LSR) sector consists of companies that offer instruments, reagents, software and services to scientists in academic, life science industry and applied market laboratories. The life science tools market has shown steady growth over the last few years despite the economic downturn, and was valued at more than \$45 billion in 2012, and is projected to grow at around 8% over the next 5 years. The sector includes a small number of large players including Agilent, Bio-Rad, EMD Millipore, Roche, Sigma-Aldrich and Thermo Fisher / Life Technologies, plus a large number of smaller niche players. The broad sector also includes microbial biotechnology and related techniques for biological production of materials for end user markets including pharmaceuticals, industrial enzymes, and cosmetics.

---

## Sector lead: Elaine Eggington

Elaine Eggington has been commercialising early stage technologies through venture capital investment and consultancy since 2000. At IP Pragmatics, she has led two long-term capacity building projects, helping UK government research organisations including the Health Protection Agency to increase their commercial revenue. She has conducted over 100 individual projects involving business development support, partnering, market research, competitive intelligence and IP landscaping of opportunities for technologies including reagents, instrumentation and other life science tools. Previously, she was the Investment Manager with day to day responsibility for the Lachesis Fund, the £8m University Challenge Fund for the East Midlands, managing a portfolio of 30 largely biomedical startup companies and development technologies. Her areas of specialisation include Medical Devices, Vaccines and Fundraising Support. Elaine spent 12 years as an information manager in the life sciences industry, working in the NHS, at biotechnology company Peptide Therapeutics and at Schering Agrochemicals. She has an MA from the University of Cambridge and an MSc from The City University.

## Recent Experience:

This section highlights some of the recent LSR sector projects and partnerships that IP Pragmatics has been directly involved with:

- Performing a market and IP assessment for a cell-based assay technology for pharmaceutical screening
- Undertaking a market assessment and commercialisation road map to refine the commercial opportunities for a novel SERS diagnostic platform with broad applications across industries
- Identifying commercial opportunities for a novel Monoclonal antibody raised against the *Pichia pastoralis* alpha signal peptide market assessment
- Assessment of customer needs for *Xenopus* (frog) collection for research use
- Assessment of market opportunity and commercialisation plan for novel chimeric analytic technology



IP PRAGMATICS

- Undertaking a competitor landscape analysis for novel microfluidic technology
- Assessment of commercial value and route to market for novel TB diagnostic and amplification technology
- Identification of product requirements and potential licensees for a new microscope
- Ongoing due diligence support for an international reagents company to inform their product development and acquisition strategy

Technology	Sample Clients
<b>Life Science research tools</b>	<a href="#">Reinnervate</a> <a href="#">TCS Cellworks</a> <a href="#">Indian Contract Manufacturer</a> <a href="#">The InterAct Partnership</a> <a href="#">BioChip Project</a> <a href="#">University of Leicester</a> Cell Bank Australia Premas Biotechnology Defence Science & Technology Laboratory Food Environment Research Agency Centre for Process Innovation Agri-Food Bioscience Institute University of Portsmouth University of Glasgow Heriot Watt University Swinburne University (Australia) Imperial Innovations The BBI Group Durham University International Institute of Cell and Molecular Biology (Warsaw) The Pirbright Institute Oxford Gene Technology
<b>Microbial biotechnology</b>	<a href="#">Animal Health Veterinary Laboratories Agency</a> <a href="#">Public Health England (PHE)</a> Queens University Belfast CSIRO University of Aberystwyth University of Birmingham / Alta Innovations Imperial Innovations University of Essex

## Case Studies

### Animal and Plant Health Agency

The Animal and Plant Health (APHA) is an executive agency of the Department for Environment, Food and Rural Affairs, working across Great Britain on behalf of Defra, Scottish Government and Welsh Government. The agency's role is to help safeguard animal health and welfare and public health, protect the economy and enhance food security through research, surveillance and inspection.

IP Pragmatics has worked closely with the APHA on a range of different business, sales, and marketing support programmes since 2006. Through an IP audit, IP Pragmatics identified a new opportunity for the commercialisation of content for a microarray platform. Through undertaking a range of market, IP, competitor and customer assessments we built a business case for the development and commercialisation of the technology as a stand-alone business. A senior director from IP Pragmatics was seconded to the new business (Identibac) to drive the marketing and sales of its products. Over its first 12 months the business generated sales of £250k and attracted attention of many of the key LSR companies. Following an approach to Alere Inc, IP Pragmatics facilitated a trade sale of the business, which generated a significant return on our client's investment.

### Reinnervate

Reinnervate Limited has developed a family of products which provide a flexible platform to allow scientists in any life science laboratory to quickly and easily establish in vitro assays and models that better mimic the in-vivo growth of cell using 3D cell culture. The company needed a better understanding on how their current and future products will influence the traditional cell culture and newly forming 3D cell culture markets and what could be expected in terms of market opportunity from the current and future size of these markets. Using a combination of secondary and primary research we undertook a comprehensive market assessment, which included interviews with Key Opinion Leaders in the 3D Cell Culture field in the UK and Australia.

### TCS Cellworks

TCS Cellworks is a private UK company that has developed a number of human cell-based research products and sells an extensive portfolio of in vitro tools for use in research applications. This project involved IP Pragmatics conducting a comprehensive Patent Landscape analysis, freedom to operate analysis and market assessment of a patent family for a novel target sequence with applications in HighContent Cell Screening. We analysed the patent landscape and then analysed key players with IP to determine the level of competition and/or prospective partners. In parallel, IP Pragmatics performed primary research with a number of drug screening participants (i.e. universities, assay/cell line product manufacturers, drug screening service providers & suppliers and end users) to identify industry needs and interests to partner the opportunity.



IP PRAGMATICS

## University of Leicester

Under a BBSRC-funded Pathfinder project, IP Pragmatics worked with Prof Nick Hartell at the University of Leicester, who has developed a prototype microscope which is able to image living tissues in super-resolution at high speed and at depths of up to 0.5mm. During the project, we built up a picture of the potential market opportunity for this machine. In particular, we gathered evidence from a range of end users and potential commercial partners about the type of specifications that the microscope would need to have to outperform the current state of the art. We also looked at the type of images that would be a convincing demonstration of the capabilities of the machine. Using this evidence, Leicester successfully raised further funding to develop the microscope to meet these specifications. IP Pragmatics is continuing to support the project during this phase, and we have used our contacts in the life science instrumentation sector to make introductions to a range of large and smaller microscope manufacturers, several of which are now evaluating the microscope as a product acquisition or licensing opportunity.

## Indian Contract Manufacturer

IP Pragmatics has been working for the last 12 months with an Indian contract manufacturer organization (CMO) to secure new clients and projects from major multinational companies for their specialist expertise in protein expression and manufacture. We actively have used our contacts and relationships with major multinationals in the human and plant biotechnology to identify potential opportunities for the company's services. We then marketed the company's capabilities and facilitated interactions between these companies and our client including a number of face-to-face meetings with key decision makers. These meetings have led to projects and contracts for our client with two new European multinational companies.

## BioChip Project

Following a review by the UK government, the "BioChip" project was established by the UK's Department Environment Food & Rural Affairs to consolidate and exploit microarray content for human, veterinary, plant and fish viruses from across a range of UK research institutes and universities. IP Pragmatics sat on the steering committee of the BioChip project and took the lead in identifying and defining the commercialization strategy for the outputs of this project. In this role IP Pragmatics facilitated discussions and relationships between the project with microarray companies, end customers and other research providers. Following the completion of the project IP Pragmatics secured offers of seed funding from 2 venture funds for the commercialisation of the projects output.

## Public Health England

IP Pragmatics has worked with Public Health England (then the Health Protection Agency or HPA) including the PHE Culture Collections ([www.phe-culturecollections.org.uk](http://www.phe-culturecollections.org.uk)) over several years from 2004, particularly through the InterAct project (see above) and a 4 year initiative (HPA Capacity Building) to enhance the HPA's ability to identify, commercialise exploit their products and services. PHE Culture Collections includes the European Collection of Cell Cultures, one of the largest suppliers of cell cultures to researchers (both academic and commercial) in Europe. With respect to the Culture Collections, we assisted with reviewing



IP PRAGMATICS

and enhancing marketing and distribution strategy to target strategic partners and (cell culture) end users in emerging markets. In addition, we also helped to successfully spin-out their cell culture inventory software system to form LabMACS.

## The InterAct Partnership

IP Pragmatics ran the InterAct Project from 2004 to 2011. The project is a unique partnership between six leading UK government research organisations covering amongst other areas the commercialisation of LSR, environment, animal health, human health, aquaculture and agriculture related research. IP Pragmatics' role has been to assist the partners with a bottom-up, technology led and a top-down, market led analysis of new commercialisation opportunities that could be created through combining the partners' IP, know-how and R&D services. Over the project's past 6 years IPP has helped the InterAct partners identify more than 220 potential opportunities. These opportunities ranged from new spin-out company concepts, new product licenses and new enhanced commercial service or R&D offerings. These opportunities were initially assessed using published, proprietary and direct market/industry contacts to identify if a market existed for the product or service. Using this analysis around half of the opportunities were progressed to more detailed market entry strategy analysis including identification of partners and competitors.

IP Pragmatics has also been actively involved in the subsequent exploitation of these opportunities through: business planning and fund raising for new ventures; marketing and negotiation of new licenses; business planning and marketing of new commercial service offerings across a range of industries including the life science research sector. To date 46 exploitation vehicles have resulted from this work; 4 of which are with companies in the life science research sector.