

editorial



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Supporting and developing bioscience in Wales. Showcasing Welsh talent at BioWales 2009

Welsh bioscience sector overview

Wales is home to one of the UK's most well-established bioscience clusters. With its longstanding reputation for scientific and academic excellence, over 250 companies have chosen Wales as their base with the sector already employing over 15 000 people.

Innovation and technical achievement in biosciences mean that Wales can compete on the world stage. The sector relies on access to leading edge research and development and a highly

skilled workforce. In addition, it needs strong infrastructure with high quality suppliers, as well as technical, scientific and financial services. The bioscience cluster in Wales offers an unprecedented opportunity in which to foster new business relationships, collaborations and partnerships.

The Welsh bioscience cluster has trading and academic partnerships with organisations throughout Europe and beyond, where demands for Welsh bioscience expertise and products are set to grow substantially over the next decade.

The Welsh Bioscience sector is worth an estimated £1.24 billion per year. Because the sector is cross-sectional, in that it produces everything from medical consumables to cellular analysis platforms, an accurate figure of its worth is difficult to estimate. Wales is home to a diverse range of companies and academic centres of excellence pushing forward the boundaries in stem cell research, cellular analysis, whole body imaging, wound care, *in vitro* diagnostics, medical device design and manufacture and the development of new medical materials. Some of the largest global companies have R&D and manufacturing bases in Wales; these include GE Healthcare, Siemens, 3 M, Convatec and Johnson & Johnson.

Wales has a proven track record for producing Bioscience spin out companies from its university sector. To date there have been over 45 Bioscience spin out companies created. The unique technology developed by these companies has led to a number of licensing deals and eventually acquirement by larger multinational companies. Some recent examples of this include Inverness Medical acquiring British Biocell International and Gene Probe acquiring Molecular Light Technology.

The continued success of the sector has been built upon the links between world-renowned academic centres based at Cardiff, Swansea, Aberystwyth and Bangor Universities and indigenous companies within the sector. In addition, Wales also boasts a strong and stable skill base, purpose-built infrastructure and a firm commitment to the sector by the Welsh Assembly Government.

Wales has some of the finest medical research and medical technology departments in Europe with an impressive track record of innovation—including automated DNA testing, dispersive X-ray spectrometry and 3D intelligent sensor technology. There has been substantial funding for two pivotal projects providing advanced research capability in whole body imaging:

- The new £16.5 million Wales Research and Diagnostic Positron Emission Tomography Imaging Centre (PETIC) will be the first of its type in Wales and is based at the Medical School at Cardiff University and the University Hospital of Wales. PETIC will provide clinical treatment for patients with a routine PET/CT NHS service combined with clinical research in areas such as oncology, cardio-vascular and neurosciences; pre-clinical research for fundamental studies of the dysfunction at the molecular and cellular level and how these contribute to human disease states; basic research for the development of novel tracers, design of multi-modality probes and reporters for functional imaging, algorithms and unique software architectures.
- The £11 million Cardiff University Brain Imaging Centre (CUBRIC) combining high quality temporal resolution (MEG) with good spatial resolution (fMRI) allows the CUBRIC scientists to better understand the cognitive architecture of the brain.

There are over 80 Medical Device Directive-compliant OEMs in Wales, with geographically compact clusters in the North East and along the South East M4 corridor. Rehabilitation equipment design and manufacture is particularly strong in Wales, and we also have growing strengths in new technologies, fuelled by excellent skills in electronics and engineering. Device design and development companies in Wales include:

- Huntleigh Diagnostics—maternity monitoring equipment, plus a huge range of other devices from cardiac monitors to defibrillators.
- Magstim—cranial magnetic stimulation devices for treating depression.
- Zarlink—wireless communication from medical devices inside the body.
- Ultrawave—ultrasonic cleaning devices.
- Nightingale Beds—bariatric beds that reduce incidence of bed ulcers.
- Biomet—innovative biomaterials and orthopaedic implants.
- Gyrus—visualisation systems, tissue management and minimal invasion.
- Surgery instruments.

The Welsh Assembly Government has also made a major investment in Biosciences at Swansea University with the establishment of the £52 million Institute of Life Science (ILS). The Institute is a joint venture between the University, IBM and the Welsh Assembly Government. Research activity at the ILS is structured around two groupings—laboratory-based biomedical research (BioMed)

and Public Health, Population Sciences and Health Services Research at the Centre for Health Information Research and evaluation (CHIRAL). Thanks to the interdisciplinary ethos as the ILS, these groupings can work together seamlessly on complex medical problems that have both biological and social impacts, such as diabetes and mental health disorders.

To support the Bioscience sector in Wales the Welsh Assembly Government holds BioWales, an annual Bioscience conference, biopartnering event and exhibition. BioWales 2009 will showcase the Welsh Bioscience sector to an international, commercial and academic audience. The 2009 conference programme will have sessions on *in vitro* diagnostics, state of the art *in vivo* imaging, finance and a 'Future Watch' session—an introduction to what is new in Wales. Running in parallel with the conference will be an Enterprise Euproe Network-sponsored Biopartnering/brokerage event providing pre-arranged one-to-one meetings to discuss potential collaborations. Full details can be found at www.biowalesevent.com.

How the Welsh Assembly Government is helping sector development

Sector development is now supported by 'Team Wales' (a collaboration of Welsh government agencies and sector bodies working in unison). Team Wales ensures that the companies get the connections they need to help their business grow in a sustainable fashion.

In practical terms, what does this mean? Team Wales will have a significant presence at large trade events, such as Medica in Germany. One of the main roles of attending will be to take along Welsh companies to promote their products and services. These events increase trade and export opportunities for companies in the sector and raise awareness of Wales as an inward investment opportunity within Europe.

In addition, sector development is supported through Technium. Technium is a business network that nurtures young technology businesses and provides the relevant knowledge, support and physical facilities to help them succeed. Technium facilities are available across Wales and are positioned to exploit local industry clusters and centres of research excellence.

There is also financial support for business start-ups and SME expansion. Finance Wales (www.financewales.co.uk) makes commercial investments in eligible Wales-based SMEs to help them realise their potential for innovation and growth. The company adopts a flexible, focussed investment approach and is involved in a growing number of co-investment and follow-on deals.