

Appendix 4 – Healthcare Technologies

Regional Strengths		<p>Medical devices including :</p> <p>Orthopaedics</p> <p>Advanced Wound Management</p> <p>Devices for assisted living – Telecare and Telehealth</p>
Sector profile	<p>Number of businesses, universities, RTOs, etc</p> <p>GVA</p> <p>GVA/employee</p> <p>Employment</p> <p>Exports</p> <p>Inward investment?</p> <p>Geographic spread/focus, e.g. significant clusters</p>	<p>400 healthcare technology businesses operate out of the region</p> <p>There are 9 universities with life sciences expertise RTO's in castings technology, materials technology, joining, machining, rapid manufacturing, near net shape etc.</p> <p>Science parks and business premises in the region include; York Science Park & Biocentre, Bradford Biocubator & Lister Hills Science Park, Leeds Biocubator & Leeds Innovation Centre, Sheffield Biocubator & Sheffield Innovation Centre, Hull Enterprise Centre. In addition to the incubators already mentioned there is the Vangarde site in York & the AMP in Waverley. Vangarde will provide up to 40,000 sq m (430,000 sq ft) of high quality office/research and development accommodation on a 10.8 hectare (26.7 acre) site.</p> <p>GVA - £0.5 billion/yr (taken from mapping exercise 2007)</p> <p>Approximately 10,000 employed within companies (substantial numbers working within the medical related disciplines within the academic and clinical setting).</p>
Key players	<p>e.g. key businesses; significant centres of expertise, including advanced manufacturing technology centres</p>	<p>Key businesses operate out of the region include Smith & Nephew, Johnson & Johnson Depuy International, Symmetry Thornton, B Braun Medical UK, Sandvik Medical, Swann Morton, Reckitt Benkiser, Covance and Seven Seas.</p> <p>The region is a global leader in <u>advanced wound management</u> and home to Smith & Nephew, one of the global market leaders, acting as a catalyst for a substantial regional activity, harnessing strong links to region's S&T base, stimulating SME R&D with strong sales across Europe and the US. The group's wound management manufacturing and global business unit is located in Hull with an additional research facility located in York, underpinning longer-term technology requirements and an annual investment of \$140</p>

		<p>million in the area of biologics field (such as bio-resorbable materials, cell biology and non-invasive healing devices). The Biomaterials and Tissue Engineering Group is a leading interdisciplinary group involving universities in Yorkshire, particularly the Universities of Sheffield, Leeds, York and Bradford, linking over 100 research staff involved in over \$20 million on research programmes. Services include applied research and the development of biomaterials, medical devices and tissue engineered products, preclinical testing and evaluation, and the development of manufacturing processes for tissue engineering products.</p> <p>Sheffield University Centre for Biomaterials and Tissue Engineering research activities includes cartilage, bone, cornea and skin with an active dialogue with scientists from other disciplines, notably engineering and the pure sciences across cell biology, advanced biomaterials and new biomedical devices. Cell biology (including molecular biology, genetics and proteomics) underpins both tissue engineering and prosthetics. The University of Sheffield is also home to The Kroto Research Campus which is the UK's largest dedicated multi-disciplinary research facility, and home to The Kroto Research Institute and Nanoscience and Technology Centre.</p> <p>The region is also home to several internationally renowned research organisations in the sector. For example, the Cochrane Wounds Group at the University of York which heads up an international collaboration that undertakes systematic reviews of the effectiveness of interventions in healthcare, and the Institute of Wound Care, a joint venture between the University of Hull, Smith & Nephew and the NHS. Unique in the UK, it develops advanced treatment pathways through a multi-disciplinary integrated wound care service.</p> <p>The Wound Healing Unit at the Bradford Royal Infirmary acts as a clinical, service development, research and educational base. It has developed strong links with industry and the University of Bradford, acting as a Chief/Principal investigator site for commercial, local and nationally funded clinical trials.</p> <p>The region has the largest concentration of <u>orthopaedic</u> companies in the UK, and is a major centre for clinical research, with one of the largest Orthopaedic Engineering Research groups in Europe, based at the University of Leeds. This houses the most comprehensive facilities for the simulation and testing of implants, and is a leading centre for studies of tribology, wear and functional biocompatibility. The region's expertise in</p>
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SWOT	<ul style="list-style-type: none"> • Areas of renown? • Skills, infrastructure, investment shortages? • Growth prospects/opportunities? • International competition; comparative levels of support? 	<p>The region has the UK's largest cluster of orthopaedic companies and one of its highest concentrations of medical device companies.</p> <p>Additional strengths in advanced wound care, Surgical Instrument and Medical Equipment Manufacturing.</p> <p>Companies are supported by a strong clinical base with the largest adult orthopaedic unit in the country.</p> <p>7 Nobel Prizes for science.</p> <p>Exceptional digital infrastructure with 98% broadband connectivity including rural areas & leading next generation broadband implementation providing opportunities for telehealthcare applications (Digital Region programme).</p> <p>Niche strengths in cancer therapeutics including Europe's largest cancer treatment centre), stem cell research and cardiovascular/respiratory.</p> <p>Skills shortage - ability to access graduate level staff for technical grade work and management positions. A particular issue for smaller companies is access to people with skills and experience of the process of selling into the healthcare sector, including understanding regulatory requirements, procurement policies.</p> <p>Growth –Healthcare Technologies is predicted to be one of the key growth sectors within Y&H over the next 20 years. Data taken from the Yorkshire Forward/Experian Regional Econometric Model predicts 10% growth from 2007-2010 and 38.5% growth from 2007-2017.</p> <p>Internationally - Successful access to new market is a key goal for many healthcare technology businesses in the region and it is important that they realise their full sales potential (including exports) and enter new markets where appropriate. Competition is high due to the global nature of the sector.</p>
Action required	Support needed Projects required	Support is needed around areas of market intelligence, access to markets, technology development and implementation, skilled workforce and direct support to inward investors.

	SAV	Regional support to R & D across companies of all sizes is needed to underpin the development of future products for future markets coupled with innovation networks to stimulate demand.
Actioned	Projects launched Partnerships established Influence made, e.g. planning decisions; funding alignment	<p>A number of projects have been actioned as follows;</p> <p>Medilink - deliver an interactive, multi faceted network programme designed to maximise collisions / engagement between businesses and the academic and clinical.</p> <p>Medipex – Yorkshire Forward have provided funding for a Business Development Manager, who works out of Medipex Ltd, to develop commercial links with Yorkshire based healthcare companies for the exploitation of new and improved medical technologies being generated within the NHS. The role has a regional focus and engages with companies from within the region of all sizes. The BDM will:</p> <ul style="list-style-type: none"> • Match potential licensees or commercial partners in Yorkshire and Humber with new IP and commercial opportunities emerging from the NHS Trusts in the regions as identified by Medipex • Identify and work with locally based design, prototype and associated product development companies to produce proof of concepts and functional prototypes of medical technologies for ongoing product evaluation • Encourage regional Medical Technology companies to collaborate with the regional knowledge base for new product developments and innovations. • Build relationships with other regional NHS Innovation hubs and identify/support portfolio opportunities for Yorkshire and Humber’s businesses as they arise <p>Yorkshire Enterprise Fellowship - is a programme of support designed to help university researchers create a business based on the successful commercialisation of their research. The programme builds on the work of the Bioscience Yorkshire Enterprise Fellowship scheme that was launched in 2004.</p>

		<p>Sector-specific Support for Trade, Inward Investment and to raise the Profile of the Region - Successful access to market is a key goal for many healthcare technology businesses in the region and it is important that they realise their full sales potential (including exports) and enter new markets where appropriate. In addition, the region must be seen as a good place to invest and it is pivotal that we raise the profile of the region with respect to healthcare technologies. A package of activity is currently being developed which will address opportunities in key sectors and markets as defined by the Yorkshire Forward Healthcare Technologies marketing strategy.</p> <p>This activity will augment the work of, and increase to the capacity of, UKTI. This will achieve 3 main goals: 1) support access to new markets; 2) build collaborative partnerships with other companies (UK and overseas), academics & clinicians and, 3) raise the profile of the region.</p>
Still to do	Agendas not yet addressed/projects still to do	<p>Medical devices – Medical Technologies Innovation Centre/devices for Dignity</p> <p>Telehealthcare – Centre for Connected Health, Pharmaceuticals</p> <p>Northern Biopharmaceutical Business Network</p>
Policy proposition	Key needs and requirements	To stay number one in orthopedics and advanced tissue care and become number one in aging devices
Fit to other TFG activity?		<p>The Healthcare Technologies sector offers very important diversification opportunities for firms who have technologies and products that could be adapted for healthcare markets (especially linked to engineering and metals/materials industries).</p> <p>The telehealthcare agenda provides an opportunity for the digital sector.</p>
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