East Midlands Healthcare and Bioscience Sector Strategy

A strategy prepared by *emda*

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This document forms part of the *emda* Knowledge Bank

east midlands development agency

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1 Introduction

The East Midlands explicitly recognises that a number of key sectors make an important contribution to the regional economy in the drive to increase productivity and competitiveness and achieve the objectives of the Regional Economic Strategy (RES). Priority sectors require targeted intervention to improve significantly the contribution they can make in areas such as innovation, sector networks, supply chain development and skills.

Healthcare and Bioscience has been highlighted as a key sector in the future economic development of the East Midlands region. Health was ranked as the 5th highest sector overall; accounting for 6.9% of regional GVA, 9.7% of regional employment, and having a forecasted employment growth of 18.1% and output growth of 47.1%.

This document sets out the delivery plans for the Healthcare and Bioscience sector over the period 2007-12 in order to achieve the aims of the RES. It sets out key issues, market failures and interventions required in order for the Healthcare and Bioscience sector to overcome barriers to growth and realise its full potential. It is intended to highlight the main areas of focus and key players. The document is not an exhaustive list and recognises that there are other organisations active in the Healthcare and Bioscience sector, which could play a role in the future prosperity of the sector.

The delivery plan pulls together several surveys and consultations that have taken place, over a number of years, with industry, Higher Education Institutes (HEIs) and other interested parties. This is however, only the start of this process and the strategy should be reviewed on a regular basis in order to ensure that the key issues and market failures remain valid and interventions are being delivered in the most appropriate manner in order to ensure the needs of the sector are met. For a list of key contributors to the strategy see supporting material.

2 Role in the East Midlands Economy

2.1.1 National Perspective

The Healthcare and Bioscience sector can be broadly defined as comprising pharmaceuticals, medical technology (devices, diagnostic equipment, and assistive technologies), red biotechnology (i.e. biotechnology related to medical processes) and specialist supporting services (contract research, packaging, sterilisation, raw material manufacture, technical consultancy etc). All these are driven by the demand for improvements in health predominantly through the NHS, retail pharmacy or exports. The Healthcare and Bioscience sector in the UK (and most of the world) is growing, reflecting an ageing, active population with higher expectations for health and well being.

Medical Device Market
The global medical technology market in 2003 was valued at £125 billion and the UK has one of the largest medical device markets in the world, valued at £4.4 billion in 2006. The domestic market is the third largest in Europe behind Germany and France. The NHS is the principal purchaser of high cost devices, with total NHS expenditure in England estimated to increase to £76,144 million in 2005/06. There are currently significant changes taking place in the way the NHS purchases with the development of regional procurement confederations covering entire Strategic Health Authorities (SHAs) and a move to greater emphasis on purchasing by Primary Care Trusts.

The UK market for medical devices is expected to experience above average growth over the next five years. The government raised health expenditure by approximately 50% between 1997 and 2004 and is committed to increasing Healthcare and Bioscience expenditure by at least 7% per annum until 2008. Post-2008; if the government adheres to the 2002 Wanless report, Healthcare and Bioscience expenditure will have to increase year on year by between 4% and 5% until at least 2012. According to Espicom the real annual growth over the next five years is estimated to be 12.3%, which would take the market to £8 billion by 2011.

Projected UK Medical Device Market, 2006-2011:

Year	Market size (£ millions)	Per Capita (£)
2006	4,416	73
2007	4,951	82
2008	5,559	92
2009	6,248	103
2010	7,031	115
2011	7,922	129

Source: Espicom estimates.

Pharmaceutical Market

The UK pharmaceutical industry is the fourth largest in the world, accounting for 12% of the world market. It is home to a number of the sector's largest companies including; GlaxoSmithKline and AstraZeneca. Behind these, there are a large number of smaller companies specialising in R&D and biotechnologyy products. The UK is credited with the discovery and development of a quarter of the world's top 100 medicines, more than any country except the USA. The Association of the British Pharmaceutical Industry (ABPI) claims that a quarter of the entire research expenditure by the UK manufacturing sector is funded or carried out by the pharmaceutical sector. Research and development expenditure by the pharmaceutical industry in Britain amounts to more than £3 billion.

Official figures placed total UK pharmaceutical output at £9.5 billion in 2004. Espicom predicts that the pharmaceutical market growth is estimated at 5.3% per annum in real terms until at least 2011. The current market size is estimated at £14.7 billion in 2006, increasing to £20.9 billion by 2011, equal to £341 per capita.

Projected UK Pharmaceutical Market, 2006-2011:

Year	Market size (£ millions)	Per Capita (£)
2006	14,734	244
2007	15,810	262
2008	16,964	279
2009	18,202	299
2010	19,532	319
2011	20,957	341

Source: Espicom estimates.

Biotechnology Market

The United Kingdom (UK) biotechnology industry remains the second largest in the world, after the United States and is the largest within Europe by a considerable margin. The market's year-on-year growth rates have accelerated in recent years, a trend expected to continue. The UK accounts for 93% of all publicly quoted bioscience companies in Europe, with a combined market capitalisation of £5 billion and is one of the fastest growing industries in the UK, with employment expanding at over 20% annually.

The United Kingdom biotechnology market generated total revenues of £4.3 billion in 2005, representing a compound annual growth rate (CAGR) of 9.3% for the five-year period spanning 2001-2005. The United Kingdom currently accounts for 37.8% of the European market revenues. In comparison, Germany and France, the next two largest markets, generated 21.1% and 13.5% of the regional market, respectively. The medical segment was the market's most lucrative in 2005, generating total revenues of £3 billion, equivalent to 69.7% of the market's overall value.

Looking forward, the market is forecast to accelerate its current performance, with an anticipated CAGR of 10.1% for the five-year period 2005-2010 expected to drive the market to a value of £6.9 billion by the end of 2010. The market's growth will continue above the European growth which will only strengthen the United Kingdom's position as the leader within the European biotechnology market. Its contribution to regional revenues is forecast to increase from 37.8% in 2005 to 38.9% in 2010.

Projected UK Biotechnology Market, 2005-2010:

Year	Market Size (£ millions)	% Growth
2005	4.3	9.6
2006	4.7	9.8
2007	5.1	10.0
2008	5.7	10.2
2009	6.2	10.2
2010	6.9	10.3

Source: Datamonitor

2.1.2 Healthcare and Bioscience as a Priority Sector in the East Midlands

Estimates for the overall market size of the Healthcare and Bioscience sector in the East Midlands are difficult to specify, given the definitional difficulties associated with the industry (Standard Industry Codes are a poor basis for approximating the Healthcare and Bioscience sector given the variety of activities that contribute, without formal recognition, to Healthcare and Bioscience products, and there is no appropriate code for biotechnology). The structure of the Healthcare and Bioscience sector in the East Midlands covers all four main fields (pharmaceuticals, biotechnology, medical technology and specialist services). Whilst, there is a larger proportion in the medical technology and specialist services fields, the East Midlands is not considered atypical to the rest of the UK.

Summary of the East Midlands Healthcare and Bioscience sector:

- 6.9% regional GVA (4th largest sector)*
- 9.7% regional employment (2nd largest sector)*
- 18% forecast employment growth, 2004-2014 (3rd highest sector)*
- 47% forecast output growth, 2004-2014 (4th highest sector)*
- >250 medical technology companies employing over 19,000 people$
- >150 biotechnology and pharmaceutical companies employing over 12 000 people$
- 8 NHS hospitals trusts (69 hospitals) and 22 NHS Primary Care Trusts (PCTs) employing 108 000 people
- 6000 Healthcare and Bioscience researchers in academia

*(source *emda data for selection of priority sectors January 2006; $ Medilink EM database*)

These data clearly show the strong contribution Healthcare and Bioscience makes both nationally and to the East Midlands economy. By intervening strategically to support the Healthcare and Bioscience sector working in close partnership with industry, *emda* and other partners can help deliver key aspects of the East Midlands Regional Economic Strategy.

3 Strategy for the Future

3.1 Vision for the Sector

*To develop an **internationally recognised**, **well networked, entrepreneurial** bioscience and* Healthcare and Bioscience *community which has the **skills**, **R&D infrastructure** and **access to finance** and **support** that enables **a broad range of businesses** to flourish*

3.2 Partners' Missions

The sector has a broad stakeholder group, all of whom will be crucial to the successful implementation of any strategy to further develop the Healthcare and Bioscience sector in the region.

3.2.1 BioCity

BioCity is a specialist facility for Healthcare and Bioscience companies. BioCity's vision is to become a major focus in the UK for Healthcare and Bioscience activities. BioCity's goal is to build a profitable business by being instrumental in the development of a thriving bioscience industry in the East Midlands. It aims to achieve this by:

a) Becoming the central hub of bioscience activities for the East Midlands region through the physical and virtual location of companies on site; through the events created and hosted by BioCity; and through the networks it establishes;
b) Building a strong brand associated with bioscience business success;
c) Creating an efficient internal infrastructure to operate the facility, to provide services and to identify and roll-out new services;
d) Reinvesting surplus funds in the regional bioscience industry.

3.2.2 bioKneX

bioKneX is the East Midlands Bioscience Knowledge Exchange. An organisation formed through collaboration between Nottingham Trent University, University of Nottingham and University of Leicester, with funding from the three Universities and *emda*. It is part of the Centre for Knowledge Exchange (CKE) Network which consists of over 20 centres across the country.

bioKneX works with its funding universities and other organisations to promote the research base within the East Midlands. It works with Universities, Industry and Education to enhance collaborative and partnering potential, provide knowledge exchange opportunities and services and actively works on behalf of the East Midlands bioscience sector, showcasing regional excellence and innovation nationally and internationally.

3.2.3 Medilink East Midlands

Medilink EM is the specialist support organisation for the Healthcare and Bioscience sector in the East Midlands. As a membership based organisation Medilink EM represents over 120 fee paying companies. Medilink EM creates, draws together and shares knowledge in order to improve the market and business support opportunities of the regions Healthcare and Bioscience companies in three core areas: Business Networking, Business Support and Business Development.

Medilink EM represents all parts of the East Midlands Healthcare and Bioscience community in dialogue and strategy development, with the aim of maximising the effectiveness of all the regional resources that are devoted to improving the performance of the sector. In addition, Medilink EM ensures that the East Midlands voice is fully presented in the formation of national strategies and programmes through links with national initiatives such as Medilink UK and the Department for Innovation, Universities and Skills (DIUS) funded Health Technologies Knowledge Transfer Network.

3.2.4 East Midlands Incubator Network (EMIN)

EMIN is a network of business incubators providing a package of business and technical assistance to start-up companies in the East Midlands. Through sharing best practice, EMIN is able to assure a high level of quality within these incubators. EMIN's mission is to increase the volume, value and survival rates of new start businesses in the East Midlands. The EMIN network incorporates virtual support with business space and incubator units throughout the region. EMIN does not have a sector specific focus, but does recognise healthcare as one of twelve business clusters as important to the region.

3.2.5 East Midlands NHS Innovation Hub

NHS Innovations East Midlands Hub is an NHS organisation that takes responsibility for advising NHS Trusts and members of staff on intellectual property and the commercialisation of ideas from the NHS. The Hub is a membership based organisation with the Trusts across the East Midlands subscribing to access the expertise and networks provided by the Hub.

The Hub has close ties to regional businesses and works with local companies to help develop and commercialise NHS inventions. This also provides these companies with contacts within the NHS that are intended to promote the adoption of new devices by clinicians. The construction of these networks has been instrumental in the acceleration of new ideas into practice with a resulting improvement of patient care and also an increase in the level of awareness of local companies within the NHS procurement system.

3.2.6 NHS

The new national health research strategy for the NHS *Best Research for Best Health* (BRBH) which was published in January 2006 sets out the contribution which the NHS will make to health research in England. The implementation of BRBH will see current single R&D contracts to NHS organisations replaced by a set of new funding mechanisms. BRBH is therefore the focus for the development of research strategy within the NHS Trusts in the East Midlands. Currently the NHS Trusts are in the process of responding to initiatives within the BRBH Implementation Plans. Bids are being developed which build on their own and their research partners' strengths with a view to developing a portfolio of research which will support the delivery of BRBH. Effective partnership working by organisations across the East Midlands will be essential to the success of R&D within the NHS. Future bids will build upon the partnerships underpinning the successful bids to be local co-ordinating centres for clinical research networks.

The mechanism for allocation of funding to support research in the NHS is to be radically overhauled over the next two years. Current single NHS R&D contracts to Trusts will be replaced by a set of funding mechanisms, each designed to achieve the delivery of key components of the new national health research strategy *Best Research for Best Health (BRBH)*. Key mechanisms for the allocation of funding will include:

- Population based funding to support patients and health professionals participation in clinical research studies that are adopted into a national portfolio of studies
- Funding allocated on an open competitive basis for initiatives within BRBH to a large number of researchers across the country to undertake high quality research that will deliver the objectives of the strategy
- Funding allocated on an open competitive basis to a relatively small number of organisations with outstanding international research teams to ensure that England remains at the leading edge of health research internationally

3.2.7 UK Trade & Investment (UKTI)

UKTI is the Government organisation that supports companies in the UK doing business internationally and overseas enterprises seeking to set up or expand in the UK. Its role is to help companies realise their international business potential through knowledge transfer, and on-going partnership support.

To support its aim to **"**enhance the competitiveness of companies in the UK through overseas trade and investments; and attract a continuing high level of quality foreign direct investment**",** UKTI launched its new five year strategy 'Prosperity in a Changing World**'** on 20 July 2006. This sets out plans for the next five years on delivering our overarching aim. It states that, *"The responsibility for facilitating international business growth and investment is shared among several government departments, the devolved administrations and the Regional Development Agencies (RDAs). We will ensure that all work together to avoid duplication or fragmentation and to get the best value for business. UK Trade & Investment (UKTI) is now taking the lead … to maximise the UK's ability to attract FDI, win market share in the new high growth economies, and help business internationalise in a globalised world." We will ensure that all work together to avoid duplication or fragmentation and to get the best value for business".*

3.2.8 Higher Education Institutions (HEIs)

The East Midlands has a wealth of higher education facilities across the region undertaking a full range of teaching, research and clinical activities. All of these areas provide a rich knowledge base for the region that should be accessible to Healthcare and Bioscience industry regionally as well as nationally and internationally.

All HEIs provide a broad base of undergraduate study in the sciences and related disciplines as well as well-developed postgraduate research. Nottingham and Leicester both have medical schools and as such provide centres for clinical excellence. In addition, clinical activities in Derby and Northampton are well developed, making the region strong in clinical sciences.

Nottingham Trent University (NTU) has developed close links with the Anthony Nolan Trust who are establishing their "Cell Therapy Centre in the East Midlands," on the Clifton Campus of NTU. Supported by *emda* capital funding for the building, an investment of over £5 million pounds will be made by the Anthony Nolan Trust to establish the centre which will collect, process and store stem cells from placental blood to treat leukaemia and related disorders. Key to this decision was the relationship developed over years with NTU and the support offered by the University Hospitals in

Nottingham and Leicester to the project. This represents just one of a number of examples of interactive projects undertaken between Universities in the region and the wider Healthcare and Bioscience community.

Similarly, the East Midlands HEIs are strong in fundamental science across a wide range of Healthcare and Bioscience areas: forensics, pharmacy, clinical, new materials, nanotechnology, post-genomic technologies, biosciences, chemistry, drug discovery and drug development. These areas are cross-supported by regional strengths in Stroke, Cardiovascular, Neurology and Oncology. These are not intended to be exhaustive lists of competencies, however it is clear that East Midlands Universities have leading specialisms that support the development of the regions Healthcare and Bioscience sector. Please see supporting material for a list of research groupings relating to the Healthcare and Bioscience sector and additional information collated by the East Midlands University Association (EMUA).

3.2.9 emda

East Midlands Development Agency (*emda*) is one of nine Regional Development Agencies in England set up in 1999 to bring a regional focus to economic development. The region's shared vision is that by 2020 the East Midlands will be a flourishing region. A region made up of growing and innovative businesses, where skilled people are employed in good quality jobs, where we all feel part of healthy, inclusive communities and live in thriving, attractive places.
This vision is underpinned by three main themes:

- Raising productivity: enabling our people and businesses to become more competitive and innovative;
- Ensuring sustainability: investing in and protecting our natural resources, environment and other assets such as infrastructure;
- Achieving equality: helping all people to realise their full potential and work effectively together to enrich our lives and our communities.

emda will ensure that the priority sectors (Transport Equipment, Construction, Food and Drink and Healthcare) are considered in the implementation of other actions in the RES to support growth, address skills needs and focus on efficiency and excellence. The priority sectors will require customised packages of specialist support to enable them to overcome barriers to growth and realise their full potential. Support will be directed towards an identified market failure or developmental bottleneck and will address both the shorter-term business requirements and the medium to long term innovation and development needs of the identified sectors.

3.2.10 Private Sector

The success of the implementation of this strategy will require input from the private sector as well as the various public sector support mechanisms. The exact nature of this input will be clarified as the strategy is delivered and also as the iNet develops. In the past, private sector input has been utilised to great success by Medilink in its Sub-Sector Strategy Groups, which have been instrumental in identifying the key themes of this document.

4 Current Status of the Healthcare and Bioscience Sector in the East Midlands

4.1 SWOT

STRENGTHS | **WEAKNESS**

Innovation
- High quality University and NHS research base
- High levels of R&D expenditure
- Presence of innovative range of activities
- Extensive product development

Markets
- UK market is one of the largest in the world
- Strong presence in niche markets
- Growing sector in sales, market share, employment

Networks
- A history of Healthcare & Bioscience in the region
- Growing base of technology companies
- Complementary engineering base in the region
- Development of cross functional networks

Infrastructure
- Cost attractive central location in UK
- BioCity as dedicated start-up facility for Healthcare & BioScience companies
- Increasing support for new company start up: Biocity Germinator programme and Leicester University biobator facility
- Development of additional science parks within the region (Nottingham University and Leicester Science Park)
- Nottingham's Science City status as a basis to build upon

Access to Finance
- Government committed to increased health expenditure up to 2008

Skills
- Availability of experienced staff (constrained by national shortage)

Innovation
- Competition between universities
- Weak presence of non-university R&D institutes
- NHS is hugely bureaucratic and is inherently resistant to change.
- No clear route for moving IP from research, through proof of concept to the market

Markets
- Niche market positions subject to technological change
- The private healthcare sector remains underdeveloped.

Skills
- Weak entrepreneurial culture
- Lack of critical mass of companies to build a sustainable and transferable pool of appropriately qualified staff

Networks
- Lack of high profile catalyst projects
- Research & company base lacks connectivity
- Limited support for start ups

Infrastructure
- Availability of sites/properties & planning permission

Access to Finance
- Lack of 'Healthcare & Bioscience aware' investors

OPPORTUNITY | **THREAT**

Innovation
- Coordinated regional innovation strategy being developed and initiated
- Increased 'medicalisation' of ailments
- Greater R&D commercialisation including spinouts (University & NHS)
- Greater use of university base
- Drive to make NHS more receptive to new technology (NHS IP hub)
- Establishment of the Anthony Nolan Cell Therapy Centre

Markets
- Regional NHS procurement hub just set up
- Further development of niche market positions (regenerative medicine, nanotech)
- Expansion of export performance
- Increasing use of private companies to manage and operate Healthcare & Bioscience facilities.
- Increased use of generics

Skills
- National NHS Knowledge & Skills Framework initiative as template for the region
- Increased regional collaboration between industry and HEIs

Infrastructure
- Development of specialist facilities for drug development
- Development of specialist facilities for alternatives to animal testing
- Expansion of high quality science parks –move on space

Access to Finance
- EU FP7 programme about to start – focus on SMEs
- Government is keen to foster R&D expenditure

Networks
- re-structured NHS SHA
- Inter-firm linkages
- Linkages between sub-sectors (biotech, pharma, Med Tech)
- Stronger linkage between NHS, Industry and HEIs (via East Midlands NHS Innovation Hub, Medilink EM and bioKneX)

Innovation
- Innovative customers leave
- Lack of start-ups undermines future expansion of the sector
- NICE (National Institute for Health and Clinical Excellence) takes a long time to assess new products
- Overhaul of NHS R&D funding

Markets
- Competition from other regions
- Many hospital trusts facing financial deficits
- Unknown NHS expenditure policy beyond 2008
- Financial deficits facing the NHS and knock-on effects to future employment

Skills
- Not enough skilled scientists and business qualified staff to feed the growth of the sector
- Support/training mechanisms insufficient to meet the needs of SME senior management
- HEIs lag behind demand for new technology courses to feed the needs of new technology companies: i.e. nanobiotechnology.

Networks
- Regional and local agencies lose all credibility

Infrastructure
- High quality sites and incubators are not developed

Access to Finance
- Region's SMEs do not attract required VC funding to drive start-up and/or growth
- Other regions make it more attractive to invest there rather than in the East Midlands
- Public funding has not previously been appropriately directed towards the Healthcare & Bioscience sector

5 STRATEGIC PRIORITIES

As a priority sector, Healthcare and Bioscience will require customised support to enable it to overcome barriers to growth and realise its full potential. The RES indicates that support will be directed towards identified market failures or developmental bottlenecks and will address both the shorter-term business requirements and the medium to long term innovation and development needs of the sector.

The table on the following page highlights the needs, strategic priorities and tactical interventions identified for the sector, and notes to explain the table format are given below:

Table Explanation
Through surveys and other research a number of sectors needs have been identified and, based on these, Strategic Priorities have been developed, designed to address those needs.

To deliver these Strategic Priorities, clearly defined, costed actions, or Tactical Interventions, are required.

However, in a highly complex situation, there is no one-to-one relationship between Strategic Priority and Tactical Intervention; one Tactical Intervention could help to deliver many Strategic Priorities.

Consequently a matrix has been developed in which owners are assigned to both Strategic Priorities and Tactical Interventions.

The owner of the Strategic Priority is responsible for ensuring appropriate actions are taken to help implement it and that such actions are coordinated, while the owner of the Tactical Intervention is responsible for helping the owner of the Strategic Priority achieve his aims.

The Strategic Priority has broad goals while the Tactical Intervention has sharp, clearly defined goals.

It should be stressed that the 'owner' of each intervention is not necessarily the sole deliverer; rather it is likely that a group of stakeholders will be built around each intervention to ensure buy in and to leverage existing activities wherever possible.

Inevitably the overall strategy will fail to address some needs that members of the sector feel are important, however the philosophy behind developing this plan has been to limit the number of interventions on the basis that it is better to do a small number of things well, rather than a lot of things poorly.

The iNet is considered to be a valuable way of drawing together and delivering many of the Tactical Interventions set out in this plan.

					TACTICAL INTERVENTION- HELPS TO DELIVER THE STRATEGIC PRIORITY										
	NEED	STRATEGIC PRIORITY	MARKET FAILURE		A	B	C	D	E	F	G	H	I	J	K
					Provide targeted grant or loan funding towards specialist equipment	Increase the scope and support offered by Germinator/Biobator Programmes	Take the lead in ensuring accommodation is coordinated across region and needs are met	Provide an integrated regional Network for Healthcare & Bioscience Knowledge Exchange	Transform HEI business interaction through the appointment of deep sector specialist brokers that act across the entire research base	Drive the development of a major research facility within the region that will benefit business and academia alike	Improve access to European and national funding through a dedicated scheme	Lead and coordinate specialist business support infrastructure	Continuation of the regulatory affairs, clinical evaluation and NHS procurement networks	Healthcare & Bioscience specific training	Targeted support for overseas missions
				OWNER	BioCity	BioCity	BioCity	bioKneX	bioKneX	bioKneX	Medilink	Medilink	Medilink / NHS Inn. Hub	Medilink	UKTI
1	**Knowledge of the regulatory environment**	**Support companies to overcome the regulatory barriers**	**SMEs have difficulties understanding and negotiating regulatory barriers**	Medilink		Integrate regulatory training offerings into Germinator/Biobator programme						Link to regional & national initiatives	Guidance on regulations Access to specialists	Training in European & US regulations & legislation, quality systems, staff roles, system operation, other specialist roles	Guidance service for appropriate international regulations
2	**Knowledge of global healthcare markets**	**Facilitate access to the global market place**	**Difficulty in accessing global healthcare markets**	UKTI							Provide market and technology information to support funding applications	Provide support that encourages SMEs to innovate in their approaches to markets: Facilitate access routes into health services. Establish strategic relationships with international quangos. Help SMEs develop shared sales forces with other SMEs. Supply chain events.	Guidance on regulations Identification of NHS contacts, contracts, tenders & support with bids Provide mechanism for assessment of health economics and technology for new ideas from a clinical, industrial and academic perspective	Provide market and procurement training	50% company subsidy for N. America / W. Europe focused support not covered by current UKTI policy.
3	**1) Improve knowledge flow between organisations; 2) Increase inter-organisation trade; 3) Helps create and embed an entrepreneurial and innovative culture**	**Engineer sub-regional cluster growth to create a better environment for innovation**	**A self sustaining critical mass of businesses has not yet developed and so intervention is required to engineer this.**	BioCity	Target grants/loans to identified "hot spots"	Use Germinator/Biobator to increase the number & quality of innovation led companies within the "hot spots"and accelerate their initial development	Ensure accommodation for new & existing innovative companies is within identified hot spots	Target knowledge exchange activities to identified "hot spots"		Locate facility within one of the targeted hot spots	Link funding with development of centres of excellence where appropriate. Use EU funding to secure international supply chains for regional healthcare businesses.	Ensure support can be accessed from all "hot spot" locations		Target the provision of training into identified "hot-spots"	Use "Hot spots" to disseminate information
4	**Improved product and process development through high quality provision of support with greater simplification and better strategic coordination**	**Coordinate the provision of specialist business support**	**Underperformance in new product and process development. Low adoption of innovation & under investment in research by SMEs**	Medilink	Use funding route to communicate available business support.	Germinator/Biobater will be one route by which specialist business support is accessed	Ensure accommodation is linked with business support outposts	Ensure knowledge exchange is integrated into wider business support and that both can be accessed from each other as a point of entry.	Provide access to HEI IP and process development capabilities. Increase access by SMEs to HEI infrastructure.	Ensure support appropriately linked	Ensure support is appropriately linked to other initiatives.	LHT specialist to link companies with support provision including Business Link. Provide support for healthcare product and process development via MAS+ programme Support Business Intelligence on market size and value for innovative new product and process development.	Guidance & updates. Ensure regulations are considered throughout product development	Product testing, clinical evaluation, & clinical trials	Ensure support appropriately linked
5	**Facilities appropriate to a company's stage of development**	**Coordination and development of accommodation and facilities.**	**The sector is not sufficiently well developed for private enterprise to be attractive to private enterprise to fill the gaps in the accomodation ladder. Neither will it look sufficiently far ahead to address future facilities needs.**	BioCity			Liaise with all agencies involved in developing strategic plans for sub regions. Ensure overall regional plan is developed		Provide access to HEI facilities, services and consultancy to address differing needs of SMEs. Provide input into company research needs to help plan future provision.	Coordinate with the development of other research-based facilities. Lead identifying the opportunity, raising funding and ultimate creation of facility.		Ensure that access to support is included where facilities are developed.			
6	**To take advantage of market opportunities**	**Support companies to access high level business intelligence**	**A failure to read market opportunities and market trends**	Medilink		Germinator/Biobator will be one route by which high level business intelligance is accessed.		Use business intelligence capabilities to suport companies in decision making with regard to knowledge transfer.				Maintain pool of specialist mentors & advisors. Use business intelligence services including Globalwatch and Pera technology promoters to support exploitation of future market opportunities.	Provision of regulation updates & changes Provision of NHS market intelligence		
7	**To raise the profile of the East Midlands Healthcare & Bioscience industrial & academic activities and thereby benefit local companies through improved recruitment, fundraising and revenue generating opportunities.**	**Coordinate and create a regional communication and marketing plan for EM Healthcare & Bioscience.**	**No current coordinated regional brand for EM LHT leading to diffuse and ineffective message. Loss of opportunities to more established regions**	Medilink		Germinator/Biobater will be promoted in a coordinated way with other sector activities and will use common messages.	Ensure accomodation sites act as access points for delivery of message.	Ensure that all groups across the sector receive a consistant message	use novel deep sector specialist approach to highlight activities in the region. Shout about regions successes	Ensure the chosen opportunity fits with the overall message on strengths in the region. Ensure development of the facility is fully exploited for marketing purposes.		Communication of what's available Communicate the market to high net worth individuals outside the region		Promote all sector-related training activities in a coordinated way. Single point of information for everything that's going on.	
8	**To make best use of the regional science base**	**Promote exploitation of Technology and Know-How**	**A failure to leverage the science base Difficulty accessing support from HEIs**	bioKneX	Target funding to support HEI-business interaction			Utilise knowledge exchange brokerage for Business- HEI interaction. Provide Innovation portal to increase frequency of HEI-SME collaboration	Use specialist brokers to Coordinate business HEI interaction to increase number of collaborations and access to EM knowledge base.	Integrate Academic and Industrial research within same facility. Economies of scale and increased synergy		Use business support infrastructure to direct companies towards specialist support for access to new technologies.	Liaison with NHS & companies to facilitate access	Intellectual property management Life science & healthcare entrepreneur action learning development programme	
9	**Sufficient levels of appropriately skilled and qualified personnel (repatriation and training)**	**Build a high level skills base for the regions Healthcare & Bioscience skills**	**A lack of appropriately skilled and qualified personnel (repatriation and training)**	bioKneX		Use Germinator to bring in management talent from outside the region		Map current and future regional skill gaps, define emerging technology needs and match with regional and national training provision. Increase regional industry experience pool.		Use the facility to build on skills strengths in the region and contribute to addressing future needs.		Use company interactions to understand business training needs and feed into programme development	Consider regulatory training needs and incorporate into programme as necessary.	Lead the developmnent of a coordinated training programme that addresses priority needs in the sector (e.g. entrepreneurial development)	
10	**An understanding of available funding sources, how to deliver value on existing funding and how to make the business case for next round of funding**	**Increase access to and take up of funding for business growth and development**	**A failure to access and use the available funding for innovation and lack of specialist funding sources**	BioCity	50% loan/grant towards equipment (max £50k). Easy to access.	Use Germinator as one of the routes to access training in investment readiness.			Increase access to funding for collaborative R&D. Coordinate innovation funding to maximise ROI.	Use facility to draw in further funding for academic/business collaboration.	Provide access to expert organisations and personnel to support regional, national and EU R&D funds for innovative product and process development.	Ensure companies are adequately informed of available funding opportunities. Link with existing schemes.		Link in with existing programmes, such as Connect InvoRed, to ensure sector specialist needs are met and supplement where necessary.	
		APPROXIMATE COSTS (PER ANNUM)	**Total cost:**	**£2,805,000**	£625,000	£200,000	£60,000	£120,000	£740,000	£60,000	£280,000	£155,000	£340,000	£225,000	TBC
			iNet element	**£2,370,000**	£575,000	£150,000	£40,000	£60,000	£530,000	£60,000	£280,000	£155,000	£340,000	£180,000	
		MEASURABLE OUTPUTS			10 companies supported each year	8 companies passing through Germinator each year. X companies through Biobater	Coordinating individual in place and recognised as such. Single reference source for all property-related activities in the region affecting LHT.	regional R&D database completed. Increase network membership to 1000 registered members. Provide access to all EM LHT business and HEIs	Additional hires in place. Increased flow of SME collaboration opportunites to HEIs demonstrated.	New hire in post. Stakholder engagement complete. Outline plans developed.	10 companies supported each year	40-50 companies supported each year	30 companies supported each year.	120 people receiving training per year	30-50 companies supported per year (to be agreed with UKTI)
		TIMESCALE FOR INTERVENTION			Scheme established Q1 08. First award Q2 08			Enhanced database in place Q4 07.	Sector specialists in place Q2 08.	Hire in place Q2 2008	First submission Apr 2007	Sept 07 start	Jan-08	Jan 08 onwards Jun 08 start entrepreneur programme	Jul-08

5.1 Strategic Priority 1: Support companies to overcome the regulatory barriers

Owner- Medilink EM

Need
To get a product, process or service to market requires an understanding of the regulatory requirements throughout the full development pathway from concept to penetrating the market. The life science and health technologies sector is heavily regulated and both the regulations and the ability to interpret them correctly are key to increasing the number of products entering the market (ref HITF report Nov 2004). The situation is complicated further by different regulations and Authorised Bodies in the various global markets.

Market Failure
A lack of resource and skills within SMEs often results in a focus on the day to day business. This in turn means that regulatory requirements are becoming secondary considerations, which can result in a failure to understand or keep up to date with regulations, missed opportunities, or inappropriate regulatory conformance routes being taken for a target market. These issues particularly occur because an SME's regulatory role is often carried out by somebody with a multitude of other tasks and management do not appreciate what it means to the company.

Intervention
A network for accessing regulatory requirements, updates and specialist help has been developed. The following tactical interventions will ensure that SMEs become more 'regulation aware' and remain so:

(B) Integrate regulatory development support into Germinator/Biobater programmes
(H) Link to national and regional business support
(I) Continuation of the regulatory affairs network (which is currently due to stop in July 2007) to provide up to date guidance and access to specialists.
(J) Training in global regulations and legislation
(K) Targeted support for international trade – guidance on appropriate regulations

5.2 Strategic Priority 2: Facilitate access to the global market place

Owner- UKTI

Need
Within the UK the NHS remains the largest market for Healthcare and Bioscience products and services. It is estimated that the NHS expenditure on goods and services is in excess of £15 billion which represents a significant opportunity to regional business assuming they understand the access routes.

Globally, emerging markets are generally not the main focus of Healthcare and Bioscience SMEs because of resource issues and the availability of easier wins in key Western markets. With the USA constituting the largest world market for medical devices, c. 40%, and the European market, at c.32% is the second largest market[1], these are the main focus of the majority of Healthcare and Bioscience SMEs.

Market Failure
NHS purchasing is often not about the best products being bought. This is precipitated by established companies having the resources to interact with the NHS at all levels whereas

[1] MEDICAL DEVICES COMPETITIVENESS AND IMPACT ON PUBLIC HEALTH EXPENDITURE, *Study prepared for the Directorate Enterprise of the European Commission July 2005*

SMEs often do not. Therefore, the benefits of innovations may not reach the market, even if the product is, by whatever measure, better.

A focus on the USA and Western European markets is strategically important to help the Healthcare and Bioscience sector's SMEs grow. Not least amongst the reasoning for greater liaisons with the USA is the fact that this is a potential source of investment funding to help Healthcare and Bioscience businesses move forward. UKTI provide valuable support to companies looking to undertake international trade and continued collaboration with all partners will continue in support of the recently published national strategy[2]. However, a focus on emerging markets and making good exporters better could result in some SMEs, who need support to succeed in international markets, not being sufficiently supported.

Strategic Intervention
This strategy intervention is primarily delivered by the following Tactical Interventions:

(G) Market trend and foresight analysis to support R&D applications
(H) Encourage SMEs to innovate in market approaches and facilitate access to global health service markets.
(I) Provide mechanisms for assessment of technology and health economics and facilitate access to NHS.
(J) Market understanding and procurement training
(K) Support for international missions

5.3 Strategic Priority 3: Engineer sub-regional cluster growth to create a better environment for innovation

Owner- BioCity
Need
Companies benefit significantly from being within a critical mass of similar and related organisations (ref Porter). This has been further supported by the experience at BioCity in Nottingham. Critical mass:

a) improves knowledge flow between organisations;
b) increases inter-organisation trade;
c) helps create and embed an entrepreneurial and innovative culture.

Furthermore, once a critical mass is achieved, the sector can develop a self-sustaining upward spiral.
There is a need therefore to build on the start that has been made within the region and to drive the creation of a critical mass of businesses in the sector.

Market Failure
Once a critical mass of organisations in the sector has been reached it becomes self sustaining and continues to grow unaided. However, until that point is reached, active intervention is required as the marketplace is not sufficiently well developed to achieve this at the current stage. The evidence for the fact that critical mass has not yet been reached is demonstrated in many ways, for example:

- Limited dedicated and/or suitably skilled resource within professional services firms;
- No private sector activity in the development of facilities for life and health technology companies;
- Low level of investment or attention from investors outside the region;
- Limited management talent and the fact that a significant number of senior executives in local Healthcare and Bioscience businesses do not live in the region

Strategic Intervention
The most efficient and effective route to achieve this is, logically, to focus resources on particular "hot-spots" within the region.
This Strategic intervention is primarily delivered by the following Tactical Interventions:

[2] Prosperity in a changing world, UK Trade and Investment, 2006

(B) Germinator/Biobater- increasing the number and quality of new businesses;
(C) The development of facilities and accommodation;
(F) Development of a major research centre;
(J) Skills improvement.

5.4 Strategic Priority 4: Coordinate the provision of specialist business support

Owner- Medilink EM

Need
The translation of knowledge into commercially successful products, processes or services is a key challenge to SMEs (ref Regional Innovation Strategy and Action Plan) to ensure they innovate and do not rely too heavily on old products or processes for their success.

Market Failure
Only 4% of turnover from East Midlands businesses is attributable to new or improved products in the East Midlands, compared with a UK national average of 9% (ref RES evidence base). Empirical evidence shows a positive correlation between levels of innovation and economic performance and literature clearly demonstrates a benefit (ref OECD 2001):

- 1% increase in business R&D leads to 0.13% increase in multi-factor productivity (MFP)
- 1% increase in foreign R&D leads to 0.44% increase in MFP
- 1% increase in public R&D leads to 0.17% increase in MFP

Intervention
To ensure successful commercialisation, specialist support, provided by those with experience of the sector, is needed from the initial concept idea, through development, to market exploitation. This strategic priority will therefore impact on all Tactical Interventions:

(A) Communicate available specialist business support through targeted funding initiatives
(B) Germinator/Biobator – provide access routes to specialist support
(C) New facilities must ensure access to specialist support
(D) Knowledge exchange as an integrated component of support
(E) Access to HEI capabilities
(F) New facilities must ensure access to specialist support
(G) Link to funding for R&D
(H) Healthcare and Bioscience specialist will link SMEs to available support initiatives
(I) Integrate regulations in to product and process development
(J) Facilitate product testing, clinical evaluation, and clinical trials
(K) Ensure product and process development is appropriate to global market

5.5 Strategic Priority 5: Coordination and development of accommodation and facilities

Owner- BioCity

Need
If companies are to grow and succeed, they need affordable facilities that are appropriate to their stage of development. If early stage and start up facilities are not available, the number of companies within the region will inevitably be less than it otherwise could be. Similarly, once established, companies will need to be able to expand into appropriate accommodation within the region otherwise they could be lost to areas where such accommodation is available.

Market Failure

Within the East Midlands, the sector is not yet sufficiently developed to encourage private enterprise to invest in the development of property for this sector on a speculative basis. Moreover, the provision needs to be coordinated and planned many years ahead of the need to ensure facilities are available at the appropriate time; this is not something that market forces will do.

Strategic Intervention
A single organisation will lead the coordination and development of accommodation and other facilities for Healthcare and Bioscience businesses within the region. The primary role will be to ensure that potential gaps in the Healthcare and Bioscience property ladder are considered in future developments in key locations by becoming embedded within the network of organisations involved in property-related initiatives in the region. Secondary roles will include influencing the nature of the provision, for example, the integration of business support activities at the location.

5.6 Strategic Priority 6: Support companies to access high level business intelligence

Owner- Medilink EM

Need
In order to take advantage of market opportunities, a company needs to understand the structure of that market, the drivers behind the market, the size of the market, future trends in the market. SMEs do not utilise market intelligence because of a number of factors, including not understanding the importance of the data, not being aware of the available information sources, costs of such information can be prohibitive to SMEs.

Market Failure
A failure to read market opportunities and market trends can result in loss of business. There are a number of theoretical sources of market failure which would be expected to affect the costs of acquiring information necessary to inform international marketing strategies and the costs of overseas market entry. These are:

- **Under provision of public goods:** private-sector market incentives are generally insufficient to provide optimal quantities of public goods.
- **Network and intermediation failures:** social networks and intermediaries underpin international linkages and knowledge flows, and enable businesses to identify and gain access to overseas contacts and opportunities.
- **Informal barriers to market access:** issues arising in the practical implementation of rules for international trade and investment systems, or other less formal barriers such as .technical standards
- **Weaknesses in internationalisation skills:** market failures affecting the supply of internationalisation skills in the economy may limit their availability, particularly for young businesses. It may be necessary for firms to build up these skills internally to a significant extent, rather than buying them in. Weaknesses in internationalisation skills are likely to increase the costs of entering overseas markets as a result of pursuing sub-optimal marketing research and market strategies which waste resources. Since longer- established firms might be expected to have developed these skills, such weaknesses may particularly affect the performance of young innovative companies[3].

Strategic Intervention
This strategic intervention is primarily delivered by the following Tactical Interventions:

(B) Germinator/Biobator – provide access to information
(D) Intelligence for technology transfer decision making
(H) Use of information, mentors & advisors to enable future market exploitation
(I) Regulatory and NHS market intelligence for informed decision making

[3] DTI ECONOMICS PAPER NO.18, International Trade and Investment – the Economic Rationale for Government Support, JULY 2006

(K) Global market information - current position and future trends

5.7 ***Strategic Priority 7: Coordinate and create a regional communication and marketing plan for East Midlands*** *Healthcare and Bioscience*

Owner- Medilink EM

Need

Healthcare and Bioscience is a priority sector for the East Midlands. As such it has been identified as being of significant potential in raising many of the identified underperforming indicators within the region (see RES). In order for the region to accelerate the development of the Healthcare and Bioscience sector it is vital that the profile of Healthcare and Bioscience is raised.

Market Failure

There are many notable successes within the EM Healthcare and Bioscience sector. However these achievements are not used effectively in underpinning the accelerated development of the sector. Likewise there is currently no coordinated consistent message that collectively highlights the East Midlands as a region of high quality science and innovative commerce. The lack of focus in developing a regional Healthcare and Bioscience plan means that opportunities that should come to the region are lost to other regions where a more integrated Healthcare and Bioscience sector is perceived.

Furthermore, it is critical to the successful creation of an effective pipeline of commercial entities that there is effective communication within the region to ensure that people are aware of the opportunities and support mechanisms available.

It is not sufficient to adopt a passive communication strategy, as this will not support the desired sector development in the required timeframe.

Strategic Intervention

There is a critical need to bring together all aspects of EM Healthcare and Bioscience to create an effective sector communication strategy. The strategy will be centred on coordinating the message of an integrated Healthcare and Bioscience region that can demonstrate the successes and highlight the opportunities that exist within the region.

This Strategic intervention is primarily delivered by the following Tactical Interventions:

(D) Germinator/Biobater- increasing the number and quality of new businesses;
(E) The development of facilities and accommodation;
(F) Provide an integrated network for Healthcare and Bioscience Knowledge exchange
(G) Increase the breadth and depth of HEI-business interactions through targeted knowledge exchange brokerage.
(G) Development of a major research centre;
(H) Improve access to EU and National funding.
(I) (H) Improving knowledge of existing funding through business support routes- ensuring coordination with existing initiatives such as GINEM;
(K) Skills improvement.

5.8 ***Strategic Priority 8: Promote exploitation of Technology and Know-How.***

Owner- bioKneX

Need

Increasing innovation within the region's companies is a key target of East Midlands Innovation and RES (see RES and Regional Innovation Strategy and Action Plan). While there are a number of complementary approaches that will be utilised to achieve this, arguably the most important is to increase access to innovative technologies and processes. Such access can either come from B-2-B interaction or from HEI-business interaction. While critical mass in the commercial sector is low at present within the region, the HEI network of 8

Universities along with a larger number of FEIs is strong but not utilised to its fullest extent. Developing new paradigms for HEI-business interaction is a central theme of the Regional Innovation Strategy and Action Plan.

Market Failure
Regional Innovation Strategy and Action Plan has identified HEI-business interaction and particularly SME interaction as being a market failure. This means that the Science base within the region is not being effectively utilised by the regions SME community. There are several areas where this failure manifests itself; Shortfall in skills training for industry, access to facilities and services that would accelerate businesses developing and access to intellectual property to drive value creation and thereby generate inward investment.

Strategic Intervention
Current ways of working do not give the desired levels of HEI-SME interaction in a way that is cost effective and appropriate for SMEs at different stages of their development. In order for this to be addressed there needs to be a change in the way HEIs and SMEs interact. This is a key component of the Innovation strategy and seeks to establish more effective pathways to achieve increased levels of innovation and make EM Healthcare and Bioscience companies more competitive. This will be achieved through the Knowledge Exchange and other mechanisms to provide targeted knowledge exchange brokerage to ensure the regions SME community has access to the right facilities, services and technology transfer. This has obvious additional benefit to the HEI community by increasing collaboration potential and access to additional funding.

5.9 ***Strategic Priority 9: Build a high level skills base for the region.***

Owner- bioKneX

Need
With an increasing number of high technology Healthcare and Bioscience companies setting up in the region there is a need for parallel increase in the number of skilled individuals to build and run them. Both Commercially and Technically qualified and experienced personnel are required to drive the growth of the sector moving forward:

a) To meet the new technology needs of future companies, the region will need to access Science, Engineering and technical staff with the appropriate technical scientific and industrial backgrounds;
b) Experienced senior management and commercial business development professionals are required to take start up companies from inception to SME status and beyond.

Market Failure
The Leitch review of skills[4] concluded that the 'UK's skills are not World class' and that this could potentially limit economic development. The East Midlands has not historically been recognised as a centre for Healthcare and Bioscience industry. With a few notable exceptions the sector's SMEs are small and early in their development. This means that attracting experienced senior professionals to the region has been difficult and retention within the area is unlikely unless there are new opportunities that retain experienced staff within the region.

HEIs play a key role in the provision of skills training to industry and the NHS, and will be an important factor in building a high level skills base. The Strategic Health Authority (SHA) also plays a significant role in training provision and, guided by National agendas, sets local priorities. In addition, Skills for Health and Skills for Care have important roles to play in determining the strategy for the modernisation of education.

[4] Leitch Review of Skills 'Prosperity for all in the global economy – world class skills', December 2006, HM Treasury report.

For the Healthcare and Bioscience sector to achieve its potential, technical staff are needed in greater numbers and, in order to retain them within the region, there needs to be sector critical mass. Without such critical mass, personnel will not have job opportunities in the region (circulating staff) and hence will be pulled to regions with more established Healthcare and Bioscience sectors.
More accurate skill gap information is needed to guide HEI course construction and content as well as course type: vocational vs. academic and scientific vs. technical.

Strategic Intervention
The provision of a skilled Healthcare and Bioscience workforce is a priority for the sector. This will be achieved through defined tactical interventions as detailed below.

(B) Germinator/Biobater- increasing the number and quality of new businesses;
(D) Provide an integrated network for Healthcare and Bioscience Knowledge exchange
(E) Increase the breadth and depth of HEI-business interactions through targeted knowledge exchange brokerage.
(F) Development of a major research centre;
(H) Business Support
(I) Skills improvement regulatory.
(J) Healthcare and Bioscience specific training

5.10 Strategic Priority 10: Increase access to and take up of funding for business growth and development

Owner- BioCity

Need
There is still insufficient investment flowing into Healthcare and Bioscience companies in the region, evidenced through company surveys and in comparison to other technology centres such as Cambridge. This stems from two key deficiencies:

c) A shortfall in the absolute level of funds available to companies in the region;
d) Companies lack of knowledge and failure to access those funding streams that are available, both private and public.

Market Failure
Because the sector in the region is not sufficiently well developed companies have difficulty gaining the attention of large specialist investors. Furthermore, banks have trouble understanding the businesses and are often reluctant to lend to start up technology companies.
In addition, small companies with limited resources have trouble understanding the range of public funding available, and accessing it is often perceived to be overly complex, especially EU funding.

Strategic Intervention
The intervention focuses on strategies designed to increase both the availability of funding to companies in the sector, but also increase the take-up of funding that is already available.

In particular, this Strategic Intervention is delivered by the Tactical Interventions concerning:

(A) The creation of a specialist grant/loan fund;
(J) Increasing access to European Funding;
(K) Improving knowledge of existing funding through business support routes- ensuring coordination with existing initiatives such as GINEM;
(J) Improving training and skills of management.

6 TACTICAL INTERVENTIONS

6.1 Tactical Intervention A: Provide targeted grant or loan funding to support investment in innovation

Owner - BioCity

Description
A fund will be established which would provide grants or, ideally low interest loans, to SMEs that are investing in high technology equipment to expand or improve the productivity of their business. The grant/loan would be of an amount that is significant to the company, for example £50,000, and would contribute up to 50% of the cost of the equipment. It is possible that this funding could be further linked to the requirement for collaboration and it could be geographically targeted to drive sub-regional clustering.

The loan model is preferred in order to make the fund as evergreen as possible. It is envisaged that there would be a two year interest free period after which the company would be required to repay the loan within two years and incur interest at a percentage above bank base rate.

Delivery
The fund would be managed by BioCity who would employ a manager to promote the fund, process applications and manage the relationship with the company on an ongoing basis.

Cost & Funding
Up to ten loans of up to £50,000 would be made each year for a total of £500,000. In addition, a manager's salary and overhead would need to be paid at £50-£70,000, and overheads of £55,000.

This programme is very much aligned to the Innovation strategies of "Delivering High Quality Innovation Support" and "Fostering enabling and Emerging Technologies" by encouraging SMEs to invest in new equipment and adopt new technologies.

For the first three years it is envisaged that this would be funded through the iNet, after which point BioCity would underwrite any shortfalls in the annual fund due to bad debts and cover the cost of the manager.

Outcomes
The primary outcome will be the support of up to 10 companies per annum to invest in new equipment that will improve the performance of their business. This links to the following RES Strategic Sub Priorities

- 2d- Overcoming barriers to SME growth
- 3a- Increasing investment in R&D
- 3b- Helping Existing Businesses Deploy Technologies and Processes
- 3c- Resource efficiency through effective use of technology and management practices
- 3d- Translating scientific excellence into business success
- 3e- Growing the region's key sectors

Strategic Priorities Affected

- (3) Engineer sub-regional cluster growth
- (4) Provision of specialist business support
- (10)Increase access to and take up of funding

6.2 Tactical Intervention B: Increase the scope and support offered by the Germinator and Biobater programmes

Owner - BioCity

Description
The Bioscience Germinator is currently running as an ERDF funded pilot project in collaboration with Nottingham Trent University and The University of Nottingham. The programme is designed to work with very early stage business opportunities and accelerate their development by providing a range of business support including a hands-on, part time manager to drive the business forward. The programme started in May 2006 with a target of supporting 4 companies at a time, however demand is such that 5 companies signed up to the scheme by October 2006. The aim of the scheme is to:

1) accelerate the development of start up businesses
2) improve their quality and set them on a firm footing;
3) act to draw through more opportunities and thereby encourage entrepreneurial activity, particularly in academic researchers.

The Biobater is a Leicester University initiative which operates in the area slightly before that of the Germinator, encouraging academics to come forward with commercial opportunities and supporting them in the early development of these.

In both cases resources limit the geographical scope (Germinator can only operate in Objective 2 areas) and the volume of activity. It is already becoming clear than an expansion of the resources available to these operations could have a significant impact on output.

Delivery
BioCity currently delivers the Germinator pilot and it is proposed that BioCity will work in collaboration with NTU and Leicester, Nottingham and Loughborough Universities to further expand and coordinate the Germinator and Biobater.

Cost and Funding
The Germinator pilot is relatively cost efficient and could be significantly expanded for approximately £200,000 per annum. This programme fits within the Innovation strategies of "Delivering High Quality Innovation Support" and "Fostering enabling and Emerging Technologies" by encouraging the successful development of new, innovative companies. Consequently it is envisaged that £150,000 of the annual funding would be from the i-Net and £50,000 from BioCity/ERDF.

Outcomes
The Germinator would support 8 companies per annum in their initial phases of development (24 over three years). Each of these companies would be expected to create an average of two new jobs over the period, i.e. 48 new knowledge-based jobs.
This Tactical Intervention links to the following RES Strategic Sub Priorities

2d- Overcoming barriers to SME growth
3a- Increasing investment in R&D
3d- Translating scientific excellence into business success
3e- Growing the region's key sectors

Strategic Priorities Affected

(1) Support companies to overcome regulatory barriers
(3) Engineer sub-regional cluster growth
(4) Provision of specialist business support
(6) Access to high level business intelligence
(7) Regional communications and marketing
(9) Build high level skills base
(10) Increase access to and take up of funding

6.3 Tactical Intervention C: Take the lead in ensuring accommodation needs of the sector across the region are met

Owner - BioCity

Description
There are many initiatives currently looking at technology-based employment accommodation across the region as well as studies to consider future demand. Although there is communication between the various elements, there is no single organisation or individual that is considering how the jigsaw fits together as a whole. Consequently there is a risk of opportunities or needs being missed or, conversely, duplicated.
This role requires initial work to pull together all existing initiatives to enable the big picture to be seen and then on an ongoing basis become networked into these and future initiatives to ensure the picture remains current. In addition, there will be a need to seize opportunities for Healthcare and Bioscience -related employment land as and when they become available so as to secure them for future development within the "hot-spots".

Costs and Funding
This would require a half-time post with an estimated cost of £60,000, including overheads. The intervention is aligned with the Innovation Strategy for the Region, in particular "Creating an Effective Environment for Innovation", consequently it is envisaged that this post would be 2/3 funded through the iNet and 1/3 from BioCity.

Outcomes
The primary outcomes would be:

(a) Establishment of a structure for the coordinated development of Healthcare and Bioscience accommodation in the region with a figurehead to lead it;
(b) A pulling together in a single point of reference all existing property-related initiatives that impact the Healthcare and Bioscience sector.

The following RES sub strategies are impacted:

2d Overcoming the barriers to SME growth
3e Growing the region's key sectors
7a Development Land

Strategic Priorities Affected

(3) Engineer sub-regional cluster growth
(4) Coordinate the provision of specialist business support
(5) Coordination and development of accommodation and facilities
(7) Regional communication and marketing

6.4 Tactical Intervention D: Provide an integrated regional network for Healthcare and Bioscience ***knowledge exchange****.*

Owner - bioKneX

Description
In order for The EM Healthcare and Bioscience sector to develop innovative products and processes, the various parts of the sector both public and private need to work in conjunction to provide an infrastructure that will provide mechanisms for effective knowledge exchange. Three of the EMs HEIs have already established bioKneX as the principle knowledge exchange organisation for East Midlands bioscience. This Higher Education Funding Council for England (HEFCE) funded organisation has also attracted EU funding from *emda* and is seen as an exemplar of best practice in the utilisation of IT systems in this area (EU and Independent consultation). It has established a network of over 600 members representing; Major companies, SMEs, support organisations, HEIs, schools and individuals.
The further development of this network is a critical component of providing enhanced knowledge exchange opportunities to companies and researchers within the region.

Delivery
The further development and maintenance of the network will be undertaken by bioKneX. Through this network, the regions Healthcare and Bioscience needs are addressed on multiple fronts, and its aims and objectives fit closely with those of the Innovation strategy and establishing the healthcare iNet.

Cost & Funding
The construction and operation of the knowledge exchange network was part financed through EU funds and is maintained by bioKneX through HEFCE funding. In order to expand this activity there is a critical need for additional business development staff. Part of this would best serve the iNet if it were a joint post with one of the other delivery organisations, most probably NHS Innovation Hub, or Medilink, and would become a core component of the iNet.

One fully overheaded FTE (Full time equivalent) £60,000 provided by bioKneX.
One fully overheaded FTE £60,000 as a joint post

This programme is very much aligned to the Innovation strategies of "Delivering High Quality Innovation Support" and "Fostering enabling and Emerging Technologies" by encouraging closer collaboration between SMEs and HEIs and providing knowledge exchange support.

Outcomes
The primary outcomes would be:

(a) The primary outcome will be the support of the Innovation strategy and enhancing the access to knowledge exchange processes across the region.
(b) Access to sector specific knowledge
(c) Closer alignment of industry needs with HEI capabilities and capacity.

This links to the following RES Strategic Sub Priorities:

2d- Overcoming barriers to SME growth
3a- Increasing investment in R&D
3b- Helping Existing Businesses Deploy Technologies and Processes
3c- Resource efficiency through effective use of technology and management practices
3d- Translating scientific excellence into business success
3e- Growing the region's key sectors

Strategic Priorities Affected

(3) Engineer sub-regional cluster growth
(4) Coordinate the provision of specialist business support
(6) Support Companies to access high level business intelligence
(7) Coordinate and create a regional communication and marketing plan
(8) Promote Exploitation of technology
(9) Build a high-level skills base for region

6.5 Tactical Intervention E: Increase the breadth and depth of HEI-business interaction through targeted knowledge exchange brokerage.

Owner - bioKneX

Description
To transform the way businesses and academic centres interact, we propose a radical new approach which involves the appointment of a small number of roving deep-sector specialists in technology brokering.

No single institution within the region can justify the cost of an expert in a particular field who is able to maintain a thorough understanding of both the research base and the industrial base in that area. Historically therefore, technology transfer offices have needed to appoint

generalists who have to work across a wide range of fields and inevitably cannot develop the required depth of knowledge to be fully effective. However, by spreading that resource across the institutions in the region, it is possible for such expertise to be built up.

It is proposed that deep sector specialists would be appointed in fields where there is real strength in a number of institutions, for example drug delivery, and they would be responsible for (a) understanding industry needs and translating that to academic researchers and (b) gaining a thorough understanding of the academic asset base in their field and translating that to their corporate base. They would know exactly who was doing what in their particular industry and who the key individuals are, and likewise with academia.

Delivery
bioKnex would work with the Universities and research centres in the region to identify the areas of focus based on the key research strengths. It would then drive the recruitment of the specialists and coordinate and manage their activities.

Cost and Funding
Provision of this targeted intervention would require the following headcount with additional FTE distributed across the regions HEIs. This targeted intervention falls under both the innovation strategy and bioKneX's current core activities therefore;

One Senior Manager, fully overheaded, funded through bioKneX	£90,000
Two FTE, fully overheaded, funded through bioKneX	£120,000
Three FTE, fully overheaded, funded through iNet.	£190,000
Four FTE (8x0.5FTE) fully overheaded within HEIs funded through iNet	£240,000
Operational cost	£100,000

Outcomes
Primary outcomes would be:

(a) To create a robust HEI-SME interface mechanism that allows greater access for SMEs to HEIs.
(b) Provide a pipeline of HEI-SME collaborative/commercial opportunities for further action by HEIs and companies.
(c) Increase the number of EM companies accessing HEI services, facilities and Intellectual Property (IP).
(d) Through brokerage, increase access by SMEs to Grants for Research and Development and other funding which enables HEI research participation.

This links to the following RES Strategic Sub Priorities:

2d- Overcoming barriers to SME growth
3a- Increasing investment in R&D
3b- Helping Existing Businesses Deploy Technologies and Processes
3c- Resource efficiency through effective use of technology and management practices
3d- Translating scientific excellence into business success
3e- Growing the region's key sectors

Strategic Priorities Affected

(3) Engineer sub-regional cluster growth
(4) Coordinate the provision of specialist business support
(5) Coordination and development of accommodation and facilities
(7) Coordinate and create a regional communication and marketing plan
(8) Promote Exploitation of technology
(9) Build a high level skills base for region
(10) Increase access to funding for growth and development

6.6 Tactical Intervention F: Drive the development of a major research facility within the region that will benefit academia and business alike.

Owner - BioKnex

Description
In order to stimulate innovation and cross sector participation it is vital that current evidenced barriers to closer working are overcome. This is an approach that has been used in industry to advantage, e.g. GlaxoSmithKline's reorganisation to Centres of Excellence in Drug Discovery (CEDDs). This is an innovative approach and has compelling features for driving innovation within the EM Healthcare and Bioscience sector. There are a number of possible routes through which such a cross-functional facility could be achieved; either developed along a defined technology need such as the Eminate facility in Nottingham, or on a sector strength basis such as medical devices or drug delivery, or to coordinate the clinical research expertise of the region's hospitals, Primary Care Trusts (PCTs) and HEIs. However, irrespective of the form, the advantages of developing a regional centre of excellence are compelling. Such a facility would bring academic researchers into direct contact with business on a daily basis; providing opportunities for mutual knowledge and know-how transfer and economies of scale in facilities management and utilisation. This would also provide a platform for attracting further funding and enhance opportunities for collaboration. In addition it would feed future skills needs and provide a ready market for new graduates, which would aid skills retention within the region.

Costs and Funding
Initial scoping of this targeted intervention would require one FTE to manage the process of Project scoping, fund identification, location selection and project management of the ongoing process.
The fully overheaded cost for one FTE would be £60,000.
The intervention is directly aligned with the Innovation Strategy for the Region, in particular "Creating an Effective Environment for Innovation", consequently it is envisaged that this post would be funded through the iNet.

Outcomes
The primary outcomes would be:

(a) Develop plans for a major regional research centre that would benefit both Academia and Business alike and generate synergies for innovative working processes.
(b) Identify suitable locations and funding to progress development of a combined regional research and development centre.

The following RES sub strategies are impacted:

2d- Overcoming barriers to SME growth
3a- Increasing investment in R&D
3b- Helping Existing Businesses Deploy Technologies and Processes
3c- Resource efficiency through effective use of technology and management practices
3d- Translating scientific excellence into business success
3e- Growing the region's key sectors

Strategic Priorities Affected

(3) Engineer sub-regional cluster growth
(4) Coordinate the provision of specialist business support
(5) Coordination and development of accommodation and facilities
(7) Coordinate and create a regional communication and marketing plan
(8) Promote Exploitation of technology
(9) Build a high level skills base for region
(10) Increase access to funding for growth and development

6.7 Tactical Intervention G: Improve access to European and National funding to support adoption of innovation

Owner – Medilink EM

Description
Central to the RES and East Midlands Innovation strategies is the need to maximise the region's economic prospects through science, research and innovation. This will involve the exploitation of the region's research base to generate new products and processes, and improve competitiveness. Currently, research & development investment in the East Midlands is dominated by a few large businesses, with relatively little undertaken by SMEs[5]. De Montfort University have recently started a £2 million pilot project to commercialise new products and processes in the East Midlands region, using University expertise to develop intellectual property that is latent in both private and public sector organisations. The project will capitalise on existing strengths and initiatives in the region to address one of its perceived weaknesses - the level of turnover from new products and services, which is reported to be lower in the East Midlands than most other regions. The project will establish the scope for improving this issue by piloting a proactive and managed innovation process and aims is to work with the NHS Hubs.

There are a number of other sources of funding for R&D of which the European Union's (EU) 7th Framework Programme (FP7) is the largest (>€50 billion over 7 years). However, the East Midlands has seen a drop of 41% in the participation rate between the last programmes, FP5 and FP6. The RES recognises that more must be done to stimulate and facilitate greater participation in FP7, particularly by SMEs.

There are a number of factors that have deterred SMEs from taking part in previous Framework Programmes:

- The need for coherence between SMEs research goals and what the EU will fund.
- The high level of responsibility required to work in a consortium (technical, administrative and financial).
- Considerable resource (time and money) commitment in project preparation and participation with inherent cash flow issues for SMEs.
- The length of commitment required (2-5 years).
- Lack of understanding of the process and bureaucracy involved

In order to overcome these issues, a number of coaching and facilitation activities need to be put in place:

- Provide strategic information on calls
- Identify contacts with the Commission
- One to one support in preparation of framework proposals
- Initial assessment and options analysis
- Focus and direct applications
- Identifying partners
- Build consortia and agreements
- Contract negotiations

Delivery
The delivery would be managed by Medilink EM utilising successful commercial services already available (e.g. Pera and other organisations specialising in EU funding).
It is anticipated that delivery would be channelled through the iNet.

[5] East Midlands Regional Economic Strategy published for review by emda, Regional Economic Strategy for the East Midlands "A Flourishing Region", 12th January 2006

Cost & Funding

A three year programme of support to SMEs. Up to 6 support packages of £15,000 for SMEs to cover 50% of proposal development, total £90,000. In addition, up to 4 specific SME projects will be identified to receive full (£30,000) funding in the first year, total £120,000. A manager's salary and overhead would also need to be paid at £50-£70,000.

It is envisaged that after the first year, 10 support packages of £15,000 would be awarded in each of the following two years. From year 4 onwards, Medilink EM would cover the cost of the manager.

Outcomes
The primary outcome will be to support up to 10 SMEs per annum to increase their R&D activity by engagement in FP7 and thereby increase innovation. This links to the following RES Strategic Sub Priorities:

2b – Creating a dynamic SME base
2d – Overcoming barriers to SME growth
3a – Increasing investment in R&D, and developing research excellence
3b – helping business deploy technologies and processes
3d – Commercialising Scientific Excellence
3e – Growing the Region's Key Sectors

Strategic Priorities Affected
(2) Access to the global market
(3) Engineer sub-regional cluster growth
(4) Coordinate specialist business support
(10) Increase access to and take up of funding

6.8 Tactical Intervention H: Lead and coordinate sector specialist business support infrastructure

Owner – Medilink EM

Description
The nature of the Healthcare and Bioscience market, both in the UK and globally, necessitates that any specialist business support, over and above the generic support for e.g. business planning, financial planning and management that will be provided by the new Business Link service operated by East Midlands Business (EMB), requires an understanding of the market and its drivers. In addition, SMEs have been confused in the past by the plethora of support mechanisms that have been available. Therefore, in order to ensure that best value is derived from specialist business support and that access to this support is clear, simple and easy to navigate, the support infrastructure must be led and coordinated appropriately. Furthermore a fund to cover the time commitment provided by a pool of appropriate mentors would help ensure that suitable support is available. It is envisaged that specialist business support will be coordinated with EMB and that a referral system will be established to appropriately direct companies from the generic support of Business Link to the specialist sector support

Delivery
Medilink EM already coordinates many aspects of specialist business support through its links with Healthcare and Bioscience advisors at Business Link, UKTI, BioCity, and the NHS Innovation Hub. It is envisaged that this role would continue as an aspect of the Healthcare and Bioscience iNet.

Cost and Funding
A Mentor fund of £25, 000 per annum; 100 days at £250 per day.

There would also need to be an initial PR and marketing budget to develop the collateral to communicate services to the SME base within the region, and also overhead funding to establish links with International quangos, trade associations and support organisations; total £50,000. In addition, the salary and overhead of a manager would need to be paid at £60-£80,000.

Outcomes
The primary outcome would be a pulling together in a single point of reference all specialist Healthcare and Bioscience business support initiatives. It is anticipated that through all iNet activities, innovation support would be provided for a total of 40-50 companies per year.

The following RES sub strategies are impacted:

1a – Developing the skill levels of the workforce
2a – Building an enterprise culture
2b – Creating a dynamic SME base
2d – Overcoming barriers to SME growth
2h – Supporting SMEs to harness public procurement opportunities
3a – Increasing investment in R&D
3b – Helping business deploy technologies and processes
3c – Resource efficiency through effective use of technology and management pratices
3d – Commercialising Scientific Excellence
3e – Growing the Region's Key Sectors

Strategic Priorities Affected

(1) Support companies to overcome regulatory barriers
(2) Facilitate access to global market place
(3) Engineer sub-regional cluster growth
(4) Coordination of specialist business support
(5) Coordination and development of accommodation and facilities
(6) Support companies to access high level business intelligence
(7) Coordinate and create a regional communication and marketing plan
(8) Promote exploitation of technology and know-how
(9) Build high level skills base
(10) Increase access to and take up of funding

6.9 Tactical Intervention I: Continuation of the regulatory affairs, clinical evaluation and NHS procurement networks

Owner – Medilink EM/ NHS Inn. Hub

Description
The Healthcare and Bioscience sector is a highly regulated industry, which relies on a multitude of guidelines to ensure compliance. The regulations and guidance differ in the various global markets because they are governed by different bodies e.g. the Medicine and Healthcare products Regulatory Agency (MHRA) in the UK, and the Food and Drug Administration (FDA) in the USA. For a new product or service to successfully enter this market an understanding of appropriate regulations is essential from inception, through clinical evaluation to market. This can be a significant resource burden to SMEs. Within the UK, the NHS remains the largest single market (>£76 billion annually) which represents a significant opportunity to regional business. However, the benefits of innovations can fail to reach this market because companies do not understand the procurement routes or are unable to penetrate them.

A network with key regulatory, clinical evaluation and procurement links has been developed. However, as a result of the almost continual changes taking place in the NHS and the ever changing regulatory landscape, this network requires constant refinement in order to be effective. In addition, outlining the framework is not always sufficient for resource limited SMEs, who need to be specifically guided through the process. Through the continuation of the regulatory affairs, clinical evaluation and NHS procurement networks (which are due to

stop in July 2007), SMEs could be guided through the various processes. Specific activities would include:

- Liaison with NHS clinical trials buildings and facilities to ensure complementary development with regional needs. There are a number of highly respected clinical trails facilities within the NHS in the East Midlands which are currently focused on developments at a national and international level. These facilities are key resources in the region and better communication between local companies and the NHS strategy boards would deliver significant advantages in delivery of high quality clinical trials support and execution.
- Bridge the existing gap between NHS R&D governance and ethics procedures and regional SMEs to accelerate product development. The internal process of R&D governance within the NHS is not well understood by external companies and is often cited as a reason for them not pursuing potential clinical products. NHS processes are very focused on the internal governance of research often with little input from external bodies as to what would be required by them to commission a clinical trial. There is a recent establishment of a Clinical Trials Support Unit (CTSU) at University Hospitals of Leicester which, in conjunction with the other regional CTSUs could provide the tools to help in planning a clinical trial. However, there is a gap between the skills in local companies that are required to fulfil regulatory applications and the provision of central human resources with the capacity to fill that gap. Provision of specialists in this area would significantly lower the barriers to product development.
- A Healthcare and Bioscience specific proof of concept fund would enable innovative ideas to be developed and then evaluated through the networks.
- Support in the completion of tenders for NHS contracts.

Delivery

The network would be maintained by Medilink EM who would continue to employ a manager to coordinate activities. In addition, 2 FTE joint posts between Medilink EM and the East Midlands NHS Innovation Hub would spend time in NHS R&D departments and at specific companies to support regulatory applications.

A fund would be set up to provide £10,000 grant support to SMEs to develop an innovative proof of concept product.

Costs and Funding

Co-ordination between regional NHS R&D Directors and company representatives: £20,000 per annum.

2 FTEs salaries and overheads paid at £50-£70,000 each.

Up to ten loans of £10,000 would be made each year for a total of £100,000.

A manager's salary and overhead would also need to be paid at £60-£80,000.

Outcomes

The primary outcomes will be:

(a) Consolidation of the networks in to the regions first point of call for regulatory, clinical evaluation or procurement support.
(b) Up to 5 SMEs supported in regulatory requirements per year
(c) Up to 5 SMEs completing NHS procurement deals per year
(d) Up to 10 SMEs completing the approval process for clinical trial applications per year

The following RES sub strategies are impacted:

1a – developing the skill levels of the workforce
2b – Creating a dynamic SME base
2d – Overcoming barriers to SME growth
2h – Supporting SMEs to harness public procurement opportunities
3a – Developing research excellence

3b – Helping business deploy technologies and processes
3d – Commercialising Scientific Excellence
3e – Growing the Region's Key Sectors

Strategic Priorities Affected

(1) Support companies to overcome regulatory barriers
(2) Facilitate access to the global market place
(4) Coordination of specialist business support
(6) Support companies to access high level business intelligence
(8) Promote exploitation of technology and know-how
(9) Build high level skills base

6.10 ***Tactical Intervention J:*** *Healthcare and Bioscience* ***specific training***

Owner - Medilink

Description
The Healthcare and Bioscience sector has specific training needs around regulatory and clinical evaluation requirements of new product and process development. The success of the training provided by Medilink EM as part of the funding received from the dti Harnessing Genomics initiative has clearly demonstrated the need for appropriate training specific to the sector. Areas of training need include, EU and US legislation, quality systems, and Good Clinical Practice (GCP). The latter applies not only to company employees but also to clinical staff engaged in commercial clinical trials, where the delivery of a high quality clinical trial is critically dependent on there being adequately trained staff. A regional drive to ensure a minimum level of staff trained to GCP standards would make the region significantly more attractive to commercial clinical trials.
In addition, whilst Total Entrepreneurial Activity (TEA) in the East Midlands has increased in recent years to now above the UK average[6] more still needs to be done if we are to achieve the levels of entrepreneurship of the leading regions of the world[7]. The low number of Healthcare and Bioscience entrepreneurs within the region has been identified as a key market failure when compared to successful Healthcare and Bioscience clusters in other regions such as Oxford, Cambridge and London. In these other regions success can, in part, be attributed to the presence of a core network of serial entrepreneurs who move from business to business imparting their knowledge and expertise before moving on to the next venture. An entrepreneur development course will therefore be established in which budding Healthcare and Bioscience entrepreneurs will learn from successful Healthcare and Bioscience entrepreneurs. This will be done using an action learning model and will need to engage internationally renowned Healthcare and Bioscience entrepreneurs.

Delivery
Medilink EM has delivered 6 regulatory focused workshops over the past year using appropriate expertise from its networks. It is proposed that Medilink EM will expand this into a monthly programme. Medilink EM would also coordinate the entrepreneur development programme in conjunction with an appropriate organisation experienced in this type of initiative.

Costs and Funding
- Workshops: £250 (50%) subsidy to attend, 12 workshops per year with an average of 10 delegates per workshop, total cost £45,000.
- Initial development of the entrepreneur programme £60,000.
- Subsidy £5, 000 per delegate (50% of costs) with 10 delegates = £50,000.

[6] Department for Trade & Industry, *'Regional Competitiveness and State of the Regions*',
May 2005, published in: emda, 'RES Evidence Base: The East Midlands in 2006- Section 3: Economy and Productivity', 2006
[7] East Midlands Regional Economic Strategy published for review by emda, Regional Economic Strategy for the East Midlands "A Flourishing Region", 12th January 2006

- Management and overheads £50-70,000.

It is envisaged that in year 2, management costs would be £30,000 and delegates would receive £2500 (25%) subsidy with 2 courses being run per year, total of 20 delegates. And by year 3, the course should have sufficient recognition that people would pay full costs. However, a quarter of spaces (5 of 20) would receive a 25% bursary, based on pre-determined specific selection criteria.

Outcomes
The primary outcomes would be:

- 100 employees trained in Healthcare and Bioscience specific topics per year (12 workshops with average of 10 delegates)
- 10 Healthcare and Bioscience 'potential' serial entrepreneurs completing the development programme per year.

The following RES sub strategies are impacted:

1a – developing the skill levels of the workforce
1b – Stimulating business demand for skills
2a – Building an enterprise culture
2b – Creating a dynamic SME base
2d – Overcoming barriers to SME growth
3e – Growing the Region's Key Sectors

Strategic Priorities Affected

(1) Support companies to overcome regulatory barriers
(2) Facilitate access to global market place
(3) Engineer sub-regional clusters
(4) Coordination of specialist business support
(7) Coordinate and create a regional communication and marketing plan
(8) Promote exploitation of technology and know-how
(9) Build high level skills base
(10) Increase access to and take up of funding

6.11 Tactical Intervention K: Targeted international trade support

Owner – UKTI

Description
At a National level UKTI's 5 year strategy (July 2006) has an emphasis on emerging markets, as well as high technology and R&D.

A focus on high technology and R&D companies could prove to be very beneficial to the regions Healthcare and Bioscience SMEs, depending on the specific qualifying criteria for the support available. However, a marketing focus on emerging markets is likely to be of interest to only a small proportion of Healthcare and Bioscience companies. There are, therefore, a number of opportunities for tactical interventions that are congruent to the overall UKTI strategy and regional funds are available to help companies explore the markets that best suit their needs.

These are likely to include:

- Supporting Healthcare and Bioscience SMEs with trade to key Western markets. With the USA constituting the largest world market for medical devices, c. 40%, and the European market, at c.32% as the second largest market[8], a focus on these is strategically important to help the Healthcare and Bioscience sector's SMEs grow.

[8] MEDICAL DEVICES COMPETITIVENESS AND IMPACT ON PUBLIC HEALTH EXPENDITURE, *Study prepared for the Directorate Enterprise of the European Commission July 2005*

- Coordinating, managing and promoting Commercial Officer visits to the East Midlands. As a free of charge service to SMEs, these have proved to be very popular. *emda* sector funding has already been used to provide marketing support and coordination of these visits up to March 2008, and if successful this is expected to continue for the remaining two years that UKTI sector projects currently run. As well as the continued coordination of these visits, an opportunity exists to combine several Commercial Officer visits with Medilink EM's Innovation Day, which attracted 150 attendees this year. Similarly global events such as Medica, that attract Commercial Officers from all over the World, could be used for planning meetings between these contact and regional SMEs. And by combining with pre-arranged business meetings, a value added service could be established over and above supporting companies to exhibit.

Delivery
The regional UKTI team would manage these activities, to ensure congruity with national UKTI strategy, with support from Medilink,.

Costs and Funding
To be agreed with regional UKTI team.

Outcomes
The primary outcome would be 10-20 SMEs supported to visit key global Healthcare and Bioscience markets and 20-30 SME meeting with Commercial Officers per year.

The following RES sub strategies are impacted:
2d – Overcoming barriers to SME growth
2e – Supporting companies to become internationally competitive
3e – Growing the Region's Key Sectors

Strategic Priorities Affected
(1) Support companies to overcome regulatory barriers
(2) Facilitate access to global market place
(3) Engineer sub-regional clusters
(4) Coordination of specialist business support
(6) Support companies to access high level business intelligence

7 Implementation Timetable

Delivery of this strategy is expected to commence before the end of 2007, once the strategic priorities have been agreed by all partners, and is expected to continue over the lifetime of this document; subject to periodic reviews and appropriate updating in response to market changes. A detailed implementation timetable will be produced once strategic priorities have been agreed. Individual tactical interventions are expected to be implemented as outlined in Section 5.