

# Scottish Life Sciences Strategy 2011

Creating Wealth, Promoting Health



2020 Vision



## Contents

- 02: Foreword** The global and economic imperatives driving this refresh of the 2020 Strategy for Scotland's Life Sciences are outlined by the Co-Chairs of the Life Sciences Advisory Board, Dr John Brown and Nicola Sturgeon MSP, Deputy First Minister and Cabinet Secretary for Health and Wellbeing.
- 03: Our mission** To double the economic contribution of Life Sciences to Scotland by 2020.
- 04: Our vision** To make Scotland the location of choice for business, investors and talented people, while securing Life Science's contribution to Scotland's economic growth.
- 05: Our challenge** The industry stands at the intersection of three mega-trends – in demographics, the environment and technology.
- 06: Our strengths** Scotland's Life Sciences enjoy critical strengths in key business areas, business diversity, research and innovation, start-up creation and infrastructure.
- 07: Our strategy for success** Our prime objectives are to anchor key businesses in Scotland, build more resilient companies, and attract inward investment, talent and aspiring leaders.
- 08: Our action agenda** Our six-point plan is to accelerate growth with the emphasis on business and institutional collaboration.
- 10: The focus for growth** We will target support on the most promising areas of business endeavour, institutional research and significant emerging opportunities.
- 12: A call to action** Next steps for all our stakeholders.

**Acknowledgements:** LISAB would like to thank local companies, researchers and the NHS for permission to reproduce their photographs.

## Foreword

**In 2005 the Life Sciences sector outlined its 2020 Vision for Achieving Critical Mass. This Vision still remains in our sights. However, we face a very different world today. The deepest global recession in a generation resulted in a period of declining output for the Scottish economy, but growth returned in 2010, and the latest forecasts show that this is likely to accelerate in 2011. It is within this context that the Life Sciences Advisory Board (LiSAB), working closely with the Life Sciences sector across Scotland, has reviewed the Life Sciences Strategy.**



Nicola Sturgeon, MSP  
Deputy First Minister and  
Cabinet Secretary for  
Health and Wellbeing  
Co-Chair, Life Sciences  
Advisory Board



Dr John Brown, FRSE  
Co-Chair, Life Sciences  
Advisory Board

The global need for first-class healthcare solutions will continue to drive innovation within Scottish Life Sciences. This, in combination with emerging markets in developing economies, offers significant opportunities for the sector over the coming years. Our ambition is to double the economic contribution of Life Sciences to the Scottish economy by 2020.

This is aspirational, however it is also achievable. Such significant growth in the sector will allow Scotland to build on our position as a location of choice for Life Sciences people, businesses, and capital, allowing us to compete in the global economy.

To achieve this growth, our Life Sciences Strategy focuses on high productivity sub-sectors including clinical, translational and regenerative medicine, and highlights significant areas of Scottish business strength in Medtech, Diagnostics and Pharma services. The Strategy also outlines the need to anchor, build and attract key businesses, people and capital, building on Scotland's reputation as a location of choice for Life Sciences companies, and on the powerfully collaborative nature of the Scottish Life Sciences community.

Life Sciences is an industry in which Scotland already has an international competitive advantage with huge potential. We can do even more to harness this potential in terms of higher growth; high value jobs; increased exports; to build on the strengths that Scotland has in innovation; in medical R&D; in technology and manufacturing capability. And we must do so in even closer partnership, because our ability to work collaboratively across Scotland is one of our biggest advantages.

That is why this review of our Life Sciences Strategy has been undertaken - to create an environment in Scotland that will help the Life Sciences sector to create significant growth. We believe the Life Sciences sector can do this, and help grow the Scotland of our future.

## Our mission

# OUR 2020 MISSION is to double the economic contribution made by Scotland's Life Sciences Industry.

### We have set an aspirational target for 2020 of doubling turnover to £6.2bn and Gross Value-Added (GVA) to £3bn.

The Life Sciences industry in Scotland is recognised by both UK and Scottish Governments as one with high growth potential and the capacity to contribute significantly to the nation's productivity.

Scotland hosts the UK's second largest Life Sciences cluster and one of the most sizeable in Europe.\* The sector contributes some £1.5bn of GVA a year and turnover worth £3.1bn to the Scottish economy.\*\*

Our central challenge is to devise a Strategy that builds on this growth to capitalise on the sector's promise. The Strategy must also be sufficiently agile to capture emerging opportunities in this fast moving industry.

**Times are tough** We're doing this at a time of not only unprecedented challenge but also attractive opportunity. At home, we're operating in an era of pronounced fiscal restraint. Abroad, our businesses are seeking to make headway in an increasingly volatile and competitive environment. However, emerging markets of the East and changing business models are all driving new opportunities for our local companies.

**The challenge ahead** The economic crisis has dented confidence across many business sectors and has so far had a mixed impact on Life Sciences in Scotland. At our least ambitious, we could seek to secure recovery and then work on the basis of 'business as usual'. The alternative is to use the recovery to kick start a bold new era for Life Sciences businesses in Scotland through a decisive, targeted plan of action as set out in this Strategy.

We're confident that it is realistic to aim to double current turnover and GVA in the next ten years. That certainly accords with the aspirations of our businesses themselves.

Analysis of some 400-plus companies suggests the industry should have both the strength and vigour to sustain the good growth of the past decade. The excellent performance of sub-sectors such as medical technologies and contract research organisations gives us a strong foundation for growth.

And there's significant further potential in breakthrough areas such as regenerative medicine, stratified medicine and applications of Life Sciences beyond human health in markets such as energy and the environment.



\* Life Sciences Key Sector Report – Scottish Government, Nov 2009

\*\* Scottish Government and Scottish Enterprise Analysis (using Source Book definition of Life Sciences)

## Our vision

**OUR 2020 VISION** is for our Life Sciences industry to be a significant contributor to Scotland's sustainable economic growth and to establish Scotland as the location of choice for Life Sciences companies.

**The over-arching aim of this refreshed Strategy is to consolidate and expand the role of the Life Sciences industry as a dynamic contributor to Scotland's economic growth and social wellbeing. We have made excellent progress since the launch of the 15-year Strategy back in 2005; we now plan ambitious short and medium-term goals to fully realise that 2020 Vision.**

### QUICK WINS

Our refreshed Strategy underlines the importance of taking immediate steps to achieve our primary goal of establishing Scotland as an international location of choice among Life Sciences players, collaborators and investors.

To achieve this within the next three years, a number of stretching targets have been set:

- **Key deals:** We'll secure international partnerships and inward investment – including in stem cells and regenerative medicine; and clinical and translational medicine – to realise the value of prior investments.

- **Key sites:** We'll attract innovative companies to locate in Scotland, linking them to our world-class research base. We will, for example, continue to find tenants for our 100-acre Edinburgh BioQuarter (see aerial photo below).
- **Step change:** We'll continue to support the evolution and growth of sustainable innovative companies capable of transforming their operational scale.

### LONG TERM

Beyond this, there are two longer-term yardsticks against which we'll monitor the progress of this Strategy.

#### Wealth creation

Our vision is of a Scotland where:

- More of our indigenous Life Sciences companies have grown into major international businesses with increased turnover and significant added-value.
- Our Life Sciences sector has become an important source of additional high-value jobs and managerial ambition.

- The business and employment opportunities in Life Sciences have established Scotland as a prime market for both international and domestic investors and mobile talent.
- The cohesion of the Life Sciences industry has boosted its development of new products and services, measurably accelerating their commercial exploitation.

#### Health promotion

Our vision is of a Scotland where:

- Our National Health Service (NHS) moves centre stage as a key customer for Scottish Life Sciences businesses and a pivotal stimulator of innovative products and services.
- There is a more positive appreciation of the opportunities to participate in trials of the most advanced healthcare products, and the associated economic, employment and investment benefits of Scotland's participation.
- Our people increasingly benefit from the early adoption of innovations in diagnosis and treatment, contributing to a better quality of life and longer life expectancy.
- The people of Scotland and our policy makers understand the role of Life Sciences in creating a healthy and low carbon environment through advanced applications in food and fuel.



## Our challenge

### Our Life Sciences sector stands at the intersection of three mega-trends with massive global potential.

**There's no denying the testing global economic and financial conditions that provide the context for this Strategy. These are tough times in most business areas and, for Life Sciences in particular, the challenge is accentuated by a combination of factors peculiar to the sector itself.**

The healthcare industry is one whose route to market for new products is characterised by high R&D costs. All sub-sectors are experiencing pronounced downward pressures on product prices, increased regulatory oversight, and with reduced public healthcare budgets, an increasing demand for evidence of the cost-benefit of new products.

The shape of the pharmaceutical industry is radically shifting as it is forced to address the effectiveness of product pipelines; the impact of diminishing returns from 'blockbuster' drugs as patents expire; and both competition (and opportunity) from the East. Medical technology companies also face increasingly onerous regulatory requirements prior to product launch.

For Life Sciences' companies there is fierce competition for limited supplies of private finance and the public stock markets are a hostile environment for many of our new companies.

#### GLOBAL TRENDS

Yet none of this can fully conceal the truly huge global potential of the Life Sciences sector. It stands at the intersection of three mega-trends described below.

**Demographic** The ageing populations of the developed world and the increasing affluence of the more populous emerging economies are together generating entirely new markets. We're seeing this most clearly in:

- **the improving** treatment and prevention of chronic diseases
- **an increasing** desire for, and ability to, enable independent assisted living
- **a rising** expectation of continued mental and physical wellbeing with ageing
- **a growing** pressure for more cost-effective and accessible healthcare
- **an accelerating** impetus from treatment to prevention of disease

**Environmental** Today's sharpened focus on halting climate change and reducing pressure on the planet's finite natural resources confronts us with new challenges – how we live, how our businesses operate, how government policies will be implemented. These challenges are opening up new opportunities to apply Life Sciences outside traditional healthcare markets.

**Technological** Huge advances in Life Sciences are combining with massively expanded capabilities in other disciplines such as Information Technology. This promises novel solutions to address these global challenges in ways inconceivable a decade ago – such as tailoring medicines to an individual's own needs.

#### LOCAL OPPORTUNITIES

Out of all this grows a wide range of expanded and new business opportunities. Exploiting them will require equally innovative business models. We have identified a number of cross-sectoral opportunities – both within and outside human healthcare disciplines. We will closely monitor the shape of these opportunities as they emerge and develop a more detailed understanding of how Scotland might derive economic benefit from them.

The areas identified as offering significant opportunity worthy of further exploration include:

- **Assisted Living** – aids to mobility, rehabilitation, patient monitoring and management to enhance independent lifestyles.
- **Stratified Medicine** – use of molecular diagnostics to identify optimal treatments for patients.
- **Wellbeing** – plant, animal and nutritional sciences aimed at promoting health benefits in food and drink.
- **Sustainability** – technologies that advance the 'green agenda' in the use of the world's scarce resources.



## Our strengths

# We're building on solid foundations – an industry whose diversity and depth provide springboards for growth.

**We're building on solid foundations. Today, Scotland has a diverse Life Sciences base with more than 640 organisations employing over 32,000 people.\* Since 1998, we have returned a 6% compound annual growth rate, increasing turnover from £1.8bn to £3.1bn.\*\***

We're one of the UK's leading regions for new Life Sciences business creation and we're a successful investment magnet: even in the toughest conditions, venture funding raised by our Life Sciences enterprises held up well in 2010, more than three times the 2005 total.\*\*\*

This track record is based on several measurable strengths.

### Strength in OUR COMPANY BASE

Two sectors of the human healthcare industry comprise our strongest springboard for growth in Scotland:

- **Medical technology**, covering diagnostics and medical devices, comprises more than 150 companies, ranging from global multinationals to university start-ups.
- **Pharma services**, encompassing more than 60 companies offering contract research in manufacture, pre-clinical, clinical and biosafety testing, and many more businesses providing allied professional services (such as intellectual property, legal and regulatory advice).

### Strength in BUSINESS DIVERSITY

In addition there are several other small, but growing, clusters of companies serving other markets including animal health, consumer care, agriculture, food and drink innovations, and environmental technologies.

This diversity widens the scope for multiple collaborative opportunities between our commercial players and our world-ranking academic research base. It ensures we're not made vulnerable by over-reliance on any single sector and can grasp emerging opportunities in lucrative, global markets.

### Strength in RESEARCH and INNOVATION

We have a long-established international reputation for excellence in basic, applied and clinical research in Scotland.

The Research Assessment Exercise (RAE), which evaluates the quality of UK research institutions, provides independent confirmation that Scottish institutions have world-leading research strengths in many areas of Life Sciences (for example neurosciences, cancer, immunology and cardiovascular disease) and also non-human health-related areas (such as agriculture and veterinary medicine).

Significant prior investment has further deepened our research excellence in **stem cells and regenerative medicine**. We also boast a broad base of **translational and clinical medicine** skills and resources. Both areas are now ripe for translation into new business opportunities and as targets for inward investment.

### Strength in BUSINESS CREATION

Scotland had the UK's largest number of Life Sciences start-ups per head of population (2005-09) according to an independent report.† "Scotland takes top slot," it says – partly influenced by the quality of university research and partly by Scottish Enterprise's "significant support to promote the sector."

### Strength in SIZE and INFRASTRUCTURE

Scotland benefits from its compact geography and the unified approach of its business, research, educational and policy makers. We enjoy short, uncomplicated lines of communication. That makes for strong partnerships and effective policy-making.

Our centralised healthcare system offers unique patient identification and tracking processes. We have accelerated researchers' access to clinical trials within our Health Boards. We have established Scotland as one of the world's top ten centres for biomedical research and exploitation.

These strengths mean we can focus on areas where Scotland has the potential to develop sustainable global competitive advantage. We're nationally collaborative to be internationally competitive.



\* 2010 figures from Scottish Enterprises's Life Sciences Source Book

\*\* 2008 figures from the Office of National Statistics and Scottish Enterprise

\*\*\* Data derived from Young Company Finance

† UK Life Sciences Start Up Report 2010, Mobius Life Sciences

## Our strategy for success

### OUR 2020 STRATEGY synthesises three routes to an attractive, dynamic Life Sciences cluster in Scotland.

Our Strategy is to concentrate efforts on those areas where we consider the greatest impact can be made during the next decade while also delivering near-term returns for the Scottish economy. Our refreshed Strategy therefore synthesises three core objectives of fundamental importance to a growing and sustainable Life Sciences cluster in Scotland.

#### Key objective: ANCHOR

**We must create an attractive, dynamic environment to retain our prized population of businesses. In today's highly mobile business environment, Scotland has to be a competitive place for a company to prosper on the global stage.**

We must embed the significant economic contribution made by our key players. They make a vital contribution to our goals for turnover and high-value, 'sticky' jobs. They supply advanced skills, ambitious and talented management, and ready access to markets.

We must be explicit about Scotland's essential contribution to the business success of companies located here: access to world-leading academic and clinical research; the strong, comprehensive supply chain from R&D to manufacture and clinical trials; a supply of suitably skilled staff. Scotland's compelling package will encourage companies to locate here, stay and grow.

#### Key objective: BUILD

**We must create a more robust business base out of the broadly-based population of largely small players. We need to assist companies to increase their chances of achieving sustainable growth.**

Previous interventions have put Scotland 'on the map' as a generator of Life Sciences start-ups. But, typically, only a few of our smaller companies succeed in sustaining consistent high growth. We therefore need to think creatively about how to support faster growth of our Life Sciences businesses.

That means improved harnessing of our academic and commercial capabilities to accelerate new product and service development. It means strengthening business offerings by building comprehensive supply chains and encouraging business-to-business collaboration.

#### Key objective: ATTRACT

**We must strengthen our ability to attract key skills and management talent, as well as investment from both companies and financial institutions. That can be done only by fostering a dynamic, innovative environment, with effective marketing of Scotland's unique offering.**

We need to help our entrepreneurs craft opportunities that 'stand out from the crowd' among business propositions to venture funders. We need to target new sources of funding such as corporate venture capital and we must redouble our efforts to win mobile business investment. Inward investors have been, and remain, critical growth generators.

Equally important is strengthening our human capital: attracting management and leadership talent is vital if we are to steer Scotland's Life Sciences towards greater international success. Also essential is a pool of suitably trained staff of all levels to meet the growth needs of a diverse range of Life Sciences operations.

## Our action agenda

**OUR ACTION AGENDA** will address those business-critical areas with the clearest need for concerted action.

**In Scotland, the Life Sciences industry has a track record of good growth and one whose global opportunities promise to sustain that impetus. We have a strong, broadly-spread pipeline of companies at various stages making us less vulnerable to systemic failure. We have an enviable international reputation in research and a high enterprise birth-rate. So we are well positioned to meet the challenges with confidence and vigour.**

Faced with today's testing economic and financial challenges, however, some tough decisions lie ahead. Ever more limited resources must clearly be concentrated for the highest impact. We need to be able to compete on the global stage and grasp emerging opportunities where economic benefit for Scotland can be gained.

Working closely with the Life Sciences community, we have therefore identified

those business-critical areas with the clearest need for targeted and concerted action. These form the key components of our Action Agenda.

**SUCCESS THROUGH COLLABORATION**  
**Our objective is to encourage intensified partnerships which will swiftly deliver the fullest commercial opportunities from our research and business base.**

The key is collaboration – both business-to-business and university-to-business – to accelerate the process of getting products and services to market. That means increasing the commercial partnerships and 'marriage-broking' mergers and acquisitions to strengthen our business environment. It means increasing the assessment, sponsorship and uptake of innovative product development by the National Health Service, raising the tempo of contract work, and deepening our market penetration.

**A STRONG SHARED MARKETING PROPOSITION**

**We need to stand out from the crowd. That's the imperative behind clear marketing of Scotland's promising message at home and abroad.**

In the international marketplace, a clear voice is essential if we are to win in the face of intensifying competition. This means promoting a well articulated business proposition to promote Scotland's global standing as a location of choice.

On the domestic front, there's also a powerful need to articulate the considerable social benefits of a dynamic Life Sciences industry.

Scotland's position at the leading edge of innovative healthcare development gives our people access to more efficient and ground-breaking techniques of healthcare and patient management.

**SUCCESS THROUGH COLLABORATION**

- encourage intensified business and research partnerships
- swift realisation of our fullest commercial potential

**DETERMINED TO REALISE OUR FULL VALUE**

- capitalise on our private and public investments
- hasten routes to market for new products and services

**A TALENT POOL OF INTERNATIONAL CALIBRE**

- encourage our best talent to make careers here
- attract and develop the most entrepreneurial business leaders

**A STRONG SHARED MARKETING PROPOSITION**

- robust business propositions to stand out from the crowd
- a deeper public appreciation of major healthcare benefits

**ACCESS TO FUNDS FOR BUSINESS GROWTH**

- improve access to sources of private and public funds
- raise our business profile with VC and research funders

**A VIBRANT INNOVATIVE CULTURE**

- a culture of shared endeavour between business, research and the NHS
- foster the contribution of the NHS as both collaborator and purchaser

**DETERMINED TO REALISE OUR FULL VALUE**

**We must continue to deliver on the promise of our Life Sciences sector and realise the full value of its private and public investments – with new products and services, robust businesses and high-value jobs.**

A determined translation of past investment into visible economic impact is both critical and urgent: measurable near-term results are essential to maintain the self-confidence of the sector and to enable us to weather the ‘perfect storm’ of economic, fiscal and regulatory constraints that we currently face. This means driving hard to demonstrate the commercial success and market readiness of new products and processes. We’ll focus on strengthening the performance of our existing companies and our most promising prospects by helping them to overcome route-to-market barriers and exploit quick growth opportunities both here and overseas.

**ACCESS TO FUNDS FOR BUSINESS GROWTH**

**We must improve our routes to sources of private and public investment. This means significantly raising our profile with venture capital providers and research funders.**

Efficient access to finance is critical. Scotland is strongly committed to using public finance to pump-prime much-needed private investment. Although private equity funding raised by Scotland’s firms held up well in the recessionary conditions of 2008-10, it remains scarce for an industry that’s cash-hungry. Life Sciences companies with credible and robust investment opportunities will need to be more imaginative in finding routes to attract venture funds.

**A TALENT POOL OF INTERNATIONAL CALIBRE**

**Our success depends on the quality of our people. Our Life Sciences enterprises must attract, retain and develop the best researchers and the most entrepreneurial business leaders.**

Our aim is to ensure that we build on Scotland’s high reputation in science with a pool of suitably trained staff and managerial leadership that is fit for our international ambitions. Our intention is to see Scotland as a place where talented students at all levels will choose to develop exciting and interesting careers.

Aspirational leadership of both companies and the industry is just as critical.

**A VIBRANT INNOVATIVE CULTURE**  
**Our over-arching objective is the creation of an environment which stimulates the rapid commercial exploitation of leading-edge innovations in areas of Life Sciences in which we have measurable global strengths.**

This requires a culture of shared endeavour between business, universities, research institutes and the NHS. It is difficult to overstate the strategic importance of the NHS in Scotland in this: its dominance of the healthcare market and access to patients means that it has a pivotal role as both a huge purchaser and a powerful sponsor of research that involves the evaluation of new products and technologies. This will underpin our Action Agenda.



## Our focus for growth

### OUR FOCUS will be on the most promising areas of business endeavour and institutional research.

**Today's challenging economic and fiscal environment underlines the need for a Life Sciences Strategy fully focused on realising the value of private and public investment in the industry.**

This means shaping and directing support to those companies currently making a significant contribution to Scotland's current and future growth plans and with the best chance of doing so quickly.

In an era of increasing restraint in public finances, 'triaging' of current and future high-growth opportunities enables us to target the most promising areas of business endeavour and institutional research.

We have identified several opportunities for making a significant economic impact.

#### Focus on KEY RESEARCH STRENGTHS

**Regenerative Medicine and Stem Cells** offer a massive opportunity to capitalise on Scotland's world-ranking research strengths. Since 2004, Scotland has invested some £100m to support the development of technologies underpinning regenerative medicine:

- The MRC Scottish Centre for Regenerative Medicine houses the UK's most advanced pilot-scale embryonic stem cell clinical manufacturing facility.
- The Scottish Stem Cell Network now has more than 1,200 members including international experts from commercial, clinical and academic backgrounds.
- A rapidly expanding cluster of companies forming a comprehensive supply chain, to support the development, manufacture and trial of regenerative medicine tools and therapies. It is well placed to capture new business in this rapidly moving field.

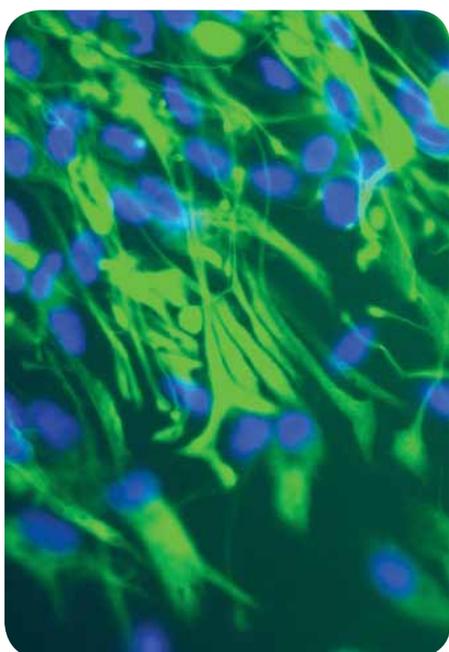
- A pipeline of potential stem cell therapies is being progressed towards the clinic offering hope for those suffering from many chronic debilitating diseases.

**Translational Medicine** also offers exciting potential to capitalise on Scotland's tradition of medical research and clinical excellence. Strategic initiatives already mean we're now better equipped than ever to progress innovations efficiently from bench to bedside:

- Scotland's universities and the NHS are working together to build a fully integrated platform for world-class translational medicine to attract revenue from clinical trials, create new jobs and benefit the local population (for example, through the Scottish Academic Health Sciences Collaboration).
- NHS Research Scotland Permissions Coordinating Centre (NRS-PCC) is easing access to Scottish Health Boards for multi-centre clinical researchers.
- Generation Scotland, and other local biorepositories, coupled with Scotland's electronic patient record system, offer a unique resource to improve understanding of major diseases and help design and develop new treatments.

Emerging market opportunities in Stratified Medicine, Wellness and Assisted Living may provide significant opportunities for Scotland:

- increased clinical research revenues to academia and the NHS
- wider exposure of Scotland's patients to innovative products
- more collaborative business opportunities with international companies
- greater market access for our indigenous healthcare companies



## Focus on KEY BUSINESS AREAS

**Medical technology** provides one of Scotland's strongest commercial bases with a quarter of our Life Sciences companies. They're well supported by specialist providers of intellectual property, legal services, regulatory affairs as well as product design and manufacturing services.\*

Medtech contributes around a quarter of Life Sciences GVA and has historically grown at well above average rates.\*\* It's a mature sector with emerging opportunities in assisted living and telehealth. Our *Medtech Road Map*\*\*\* has been designed to support companies during the development of new healthcare products and enhance their engagement with NHSScotland from product inception through to sales. The first results of this initiative look promising. Opportunities in this market are characterised by:

- **accelerating demand** for more user-friendly diagnostics as use shifts from hospital labs to GP surgeries and the home
- **growing popularity** of digitally enabled devices to help the elderly live independently and be professionally monitored
- **increasing need** for devices to minimise invasive surgery, reduce healthcare costs and improve patient recovery

**Pharma services** comprise a comprehensive and dynamic sector offering contract research, contract manufacturing, clinical trial management and other services including testing and compliance, regulatory consulting, tissue provision, genetic testing and provision of other specific research enabling services.

Pharma outsourcing was valued at around \$57bn in 2009.† As pharma companies downsize internal R&D, they're turning to nimble, highly-specialised SMEs as well as world-leading academic and clinical centres to bolster their product portfolios. That's the opportunity for our new generation of Life Sciences companies and researchers clustered around our 'knowledge hubs'.

## Focus on EMERGING OPPORTUNITIES

Significant global opportunities are also emerging in several new areas – both within and outside human healthcare disciplines. These are very broad themes comprising many different markets and technologies, some of which are potentially disruptive. However, they offer opportunities worthy of further exploration by our company and research base.

- **Assisted Living** offers important opportunities in telehealth with the growth of applications for remote diagnosis, treatment and management of chronically ill and elderly patients.
- **Stratified Medicine** plays to Scottish strength in the evolution of next generation diagnostics for drug development and patient stratification.
- **Wellbeing** is creating new markets in nutraceuticals – food additives beneficial to maintaining health and preventing disease.
- **Sustainability** sees the promotion of industrial biotechnologies such as synthetic biology to develop greener sources of base chemicals.

Indeed, Scotland is already capitalising on these emerging opportunities. Over the next four years, £10m will be invested to improve the care of more than 10,000 elderly and people with disabilities by growing the Scottish telehealthcare sector through the Scottish Assisted Living Demonstrator – the first joint project between the Technology Strategy Board (TSB) and the Scottish Government. NHS 24, Highlands & Islands Enterprise and Scottish Enterprise are involved in the development of the Demonstrator, which is the first of several to be established across the UK by the TSB under its DALLAS (Demonstrators of Assisted Living Lifestyles at Scale) programme.

These thematic areas place Life Sciences at the interface with many very different sectors – information technology, food and drink, energy, agriculture, textiles – and serve to highlight the world of opportunity awaiting Life Sciences in Scotland.



\* Scottish Government and Scottish Enterprise Analysis (using its Source Book definition of Life Sciences)

\*\* 2008 figures from the Office of National Statistics and Scottish Enterprise

\*\*\* <http://www.scotland.gov.uk/Publications/2010/11/02085517/0>

† Global Pharmaceutical Outsourcing - Trends and Growth Opportunities, Frost and Sullivan 2009

## A call to action

**We require the vigour, talent and enthusiasm of all our stakeholders to secure a vibrant and commercially outstanding Life Sciences sector.**

**This Strategy is founded on the achievements of Scotland's Life Sciences industry in recent years. It takes account of the challenges that inevitably result from the recent global financial and economic conditions. It responds ambitiously to the opportunities for growth of our Life Sciences community.**

The Strategy refresh results from extensive consultation with our Life Sciences players – our businesses, our academic and research institutions, the National Health Service, as well as industry bodies, the Scottish Government and its agencies.

This Strategy is, therefore, unambiguously 'owned' by our private and public sector agencies in Scotland. To secure a vibrant and commercially outstanding Life Sciences

sector, its development depends on the vigour, talent and enthusiasm of all our stakeholders.

This partnership will now be vital to achieve the ambitious growth aspirations set out in the Strategy. Overseen by LiSAB, the Action Plan will drive the delivery of the Strategy, requiring the alignment of the investment and activity of partners across private, public and academic sectors.

The areas set out in the Strategy's Action Agenda will form the building blocks of the Action Plan. The Action Plan will be published in the summer of 2011. It will remain a living document, enabling LiSAB to monitor delivery and progress towards our 2020 growth mission, while nimbly responding to new opportunities as they arise.



## About the Life Sciences Advisory Board



Formed in May 2009, the Life Sciences Advisory Board (LiSAB) is a joint industry, enterprise and government strategy team with a very active remit to develop, drive and deliver the Life Sciences strategy in Scotland. It plays a crucial role in ensuring Scotland has the best possible environment for fledgling technologies and established Life Sciences companies alike.

LiSAB fosters support and discussion between key players in the Life Sciences sector, and those responsible for government policy-making at the very highest level.

LiSAB consists of representatives across the spectrum of the Life Sciences community including CEOs and senior managers from pharmaceutical, biotechnology, medical devices and diagnostics companies, contract research organisations, the research community, the NHS and Scottish Government.

LiSAB's remit is to set the overall strategy for the growth of the Life Sciences sector in Scotland, providing advice to government and the public sector on key issues affecting Life Sciences and to help develop a creative environment where ingenuity and innovation can create jobs and wealth for Scotland. For current members of LiSAB please see [www.lifesciencesscotland.com](http://www.lifesciencesscotland.com) and click on the "About Us" link.

If you require this publication  
in an alternative format and/or  
language please contact us via  
[www.lifesciencesscotland.com](http://www.lifesciencesscotland.com)  
to discuss your needs.

SE/3350/Mar11

