European and External Relations Committee

Inquiry into Strategy for Growth and Jobs

Written submissions

Evidence has been received from:
- Local Government Association/ Local Government International Bureau
- Scottish Trades Union Congress (STUC)
- Scottish Enterprise
- Universities Scotland
- BioDundee Partnership
- Institute for System Level Integration (iSLI)
- Learning and Teaching Scotland
- Careers Scotland
- National Endowment for Science, Technology and the Arts (NESTA)
- Scottish Science Advisory Committee
- Equal Opportunities Commission Scotland

SUBMISSION FROM LOCAL GOVERNMENT ASSOCIATION/ LOCAL GOVERNMENT INTERNATIONAL BUREAU

Background

1. The Local Government Association (LGA) represents the interests of local authorities in England and Wales. The Local Government International Bureau (LGIB) acts as its European and international arm.

2. The LGA/LGIB would like to thank the Scottish Parliament for inviting us to respond to your call for evidence. Through our engagement in the UK government’s work on Lisbon, the LGA/LGIB is seen as a key stakeholder, and we believe that some of our work may be of interest to the committee.

The EU Lisbon Partnership for growth and jobs

3. The LGA/LGIB welcomed the concept of the Lisbon Partnership for Growth and Jobs, since it is only through actively encouraging EU institutions, Member State governments and key stakeholders to work together that the Lisbon objectives will be achieved, which also alleviates the issues of poor delivery and lack of ownership. In reality however the Partnership’s success depends largely on how Member States implement and take it forward.

4. Local authorities are pivotal to the success of Lisbon. Indeed, part of local authorities’ remit on a local level mirrors what Lisbon is trying to achieve on an EU level: that is, to promote local enterprise, jobs and prosperity.
Local government is a key to the strategy’s success

5. Although the focus is on growth and jobs, ‘Lisbon’ covers many cross cutting issues which are key to local government’s powers of community wellbeing, such as economic development; sustainable development; lifelong learning; active ageing; and social inclusion.

6. The Local Government Act 2000 gives local councils the power to promote the economic, social and environmental well-being of their communities and a duty to develop community strategies in consultation with local partners. Councils have a good record on local regeneration partnerships.

7. The Lisbon strategy urges Member State governments to ensure inclusive labour markets. Local authorities are often the largest local employer and are providers and enablers of services so have an important role to play in developing workforce policy. With their knowledge of local circumstances, local authorities can interpret and implement measures framed at EU and national level to meet the needs of local communities.

Localising Lisbon

8. The LGA/LGIB outlined how councils deliver Lisbon at local level in terms of policy development and practical examples through our submission (attached\(^1\)) to the UK Lisbon National Reform Programme, which we consulted local authorities widely on. For instance:
   - Local authorities play a key role as coordinators of economic clusters, enterprise facilities and science parks which help increase and improve investment in R&D;
   - 65% of local authorities have policies and plans in place to tackle the causes of climate change in their area;
   - Local authorities are using the Local Authority Business Growth Initiative (LABGI) to maximise local business creation;
   - The LGA and government developed a local employment toolkit for councils and local job centres to help the hardest to reach into work; and
   - Local authorities work with other sectors including the voluntary and community sector on projects aimed at tackling poverty and social exclusion; 75% identified social inclusion as a corporate priority.

9. Our concerns and some practical local case studies were carried forward into the final programme, which is good news for local government since the programme will frame the way in which EU structural funds are delivered.

10. The LGA/LGIB has also fed in the UK’s work on the European Employment Strategy and the EU social inclusion process. On social

\(^1\) Available in hard copy only from the Clerks
inclusion we work closely with the Department for Work and Pensions. The EU social inclusion roundtable in October 2005, Glasgow shows precisely how local and central government are working to alleviate social exclusion.

**Raising awareness**

11. In light of low electoral turn out in national and local elections, there is a need to re-connect the citizen with governance processes. Lisbon provides an overarching focus for the whole of the EU and helps reduce the perceived distance between EU policy and the local level. As the form of governance closest to the citizen, local government is vital to communicating the strategy’s objectives. We are raising awareness about Lisbon locally.

12. The LGA/LGIB fulfils an information provider role to local authorities. Through the LGIB’s European Information Service, we have been able to communicate to local authorities the values of the EU’s Lisbon strategy.

13. Since Lisbon covers so many different policy areas, the LGA/LGIB felt it was important to coordinate the views of all local authorities in England and Wales, so we established an LGA/LGIB liaison group on Lisbon, to pool expertise on each significant policy area relating to Lisbon and to help integrate this cross cutting policy issue into the LGA. The group is made up of elected members who are steering the LGA’s policy on lifelong learning, regeneration, community wellbeing, urban and rural policy, and European affairs. We also have a Welsh representative.

14. We responded to the UK’s House of Lords’ inquiry into Lisbon strategy; indeed the Lords’ final report suggested better ways of working.

15. We also responded to the Committee of the Regions’ (EU’s local and regional government advisory body) work on Lisbon. Its concluding report (attached\(^2\)) gave an analysis on the involvement of local and regional government in the formulation of the Lisbon National Reform Programmes across the EU.

16. The LGIB has held two events on Lisbon to raise awareness. One was held during the LGA Annual conference in July 2005 in Harrogate, and aimed to inform our membership about the linkages between local, regional, national and European strategies. Our second event was held in London in December 2005, bringing together leading figures from the UK government, European Parliament and Commission and local councils who were already realising the linkages, and addressing Lisbon locally. We also published Localising Lisbon at the event:


**General comment on mechanisms**

\(^2\) Available in hard copy only from the Clerks
17. The LGA/LGIB calls for strengthened dialogue between central and local government to ensure stakeholders are fully involved in the Lisbon Partnership, and are suggesting ways of improved working.

18. Identifying good practice: Local government brings the concept of Lisbon to life and illustrates the connection between the local and European levels. The attached submission highlights the practical activity taking place at UK local level to achieve the Lisbon objectives. The exchange of best practice gives Member States an opportunity to see what does and does not work. The EU’s annual reports, which summarise and evaluate individual Member State performance, provide a mechanism for making comparisons across member states and learning from other countries.

19. Other possible mechanisms: In areas such as social exclusion and anti discrimination, partnership working in the European context is facilitated through trans-national projects funded through the EU Community Action Programmes. Indeed through this process, a number of UK local authorities have worked with partners across the EU to find common solutions to social exclusion. This activity promotes a greater understanding of situations and cultural diversity within Member States. The possibility of transnational project-based working on Lisbon-related issues could be explored as it would provide more opportunities for EU partnership working.

Closing remarks

20. Lisbon cannot be achieved without stakeholder involvement. Local government’s strength is that it works in partnership at all levels. At a local level, they mobilise the community and voluntary sector, and engage with the local business community. At a regional level, they work with other local authorities towards sub national strategies such as the regional economic strategies, and the Regional European Action Plans, which share many of the priorities set within the framework of the Lisbon strategy. Local government is committed to continuing its role to help the UK government achieve the ‘Lisbon’ objectives. For a true partnership for growth and jobs to be realised, the EU institutions and the UK government need to integrate stakeholders into the Lisbon process.

SUBMISSION FROM STUC

1 Introduction

1.1 The STUC welcomes the opportunity to contribute to this Inquiry which we hope will improve the quality of debate in Scotland around European issues.

1.2 Discourse around the merits of the Lisbon Strategy has been characterised by blatant misrepresentation of statistical evidence and

3 Available in hard copy only from the Clerks
economic and social trends. The purpose of such distortion is often an ill-disguised attempt to further embed orthodoxies around deregulation and labour market flexibility. Too often, debate has been cast in terms of a valiant struggle by the dynamic Anglo-Saxon model to overcome sclerotic ‘old’ Europe. Disappointingly few commentators have been prepared to acknowledge that there is more than one route to economic success.

1.3 This submission provides some general comments on the Lisbon Strategy before addressing the specific issues raised in the Committee’s call for evidence.

2 The Lisbon Strategy

2.1 Trade unions have consistently argued in favour of the ‘balanced and integrated nature’ of the Lisbon Strategy, emphasising that the search for a new dynamism in the European economy must be undertaken without endangering the basic elements of the European social model.

2.2 In May 2004, as the Lisbon Strategy neared its halfway point, the European Commission set up a High-Level Group of Independent Experts chaired by former Netherlands Prime Minister Wim Kok. The Group submitted its report, Facing the Challenge, to the Commission and Council in November 2004.

2.3 The Kok Report, as it is more commonly known, concluded that the EU was very unlikely to meet its 2010 goals, chiefly due to a lack of determined political action. It highlighted an overloaded agenda, poor co-ordination and conflicting priorities. It also pointed out that structural reform had become code for deregulation and weakening workers’ rights, and noted that policies should, instead, help workers to address structural change (investing in skills and productivity instead of deregulating labour markets). It also underlined the vital importance of aggregate demand management to exploit fully Europe’s growth potential and argued that the stability pact was an obstacle to this.

2.4 The report also stressed the importance of sustaining the European Social Model and advised against copying the US system of minimal social welfare. Proposals sensibly focused on the need to communicate better with EU citizens, and obtain their support for the reform process – something trade unions have repeatedly emphasised\(^4\). Importantly, the report stressed the role that social dialogue and the social partners, both at national and EU level, can play in delivering the Lisbon objectives of non-inflationary growth, more and better jobs and strong social cohesion.

2.5 In February 2005, European Commission President, Jose Manuel Barroso, announced the relaunch of the Lisbon Strategy as a Partnership for

\(^4\) Interestingly, there are strong echoes here with the findings of the Enterprise Committee’s recent Business Growth Inquiry and also with Wendy Alexander’s conclusions from the Allander series of lectures. Both emphasise the importance of building a consensus for growth.
Growth and Jobs, simplifying targets and reporting procedures and with a single National Reform Programme (NRP) for each country.

2.6 Preliminary assessments of the first round of NRPs in 2006 have highlighted major shortcomings: an excessive emphasis on labour market flexibility and competition and neglect of the social dimension.

2.7 The STUC supports the central message of the European Trade Union Confederation:

“...that the European social dimension, comprising social dialogue, collective bargaining, workers’ protection and participation is not a drag on competitiveness and economic efficiency but, on the contrary, an essential stimulus to innovation, productivity and sustainable growth. In order to implement the Lisbon Strategy, the European Social Model must be recognised as a productive factor”.

3 The UK National Reform Programme

Priority and Consultation

3.1 The UK’s NRP is a somewhat complacent document, clearly informed by the belief that the UK has little to learn from practice elsewhere in Europe but that Europe has much to learn from the UK. Much of the paper is recognisable to anyone familiar with the last few Budget papers leaving the suspicion that it was not a priority for the Treasury.

3.2 The Commission is correct to criticise the UK NRP for the limited attempts ‘to develop ownership’ of the document. A written consultation exercise carried out over a four-week period at the height of the summer is simply unacceptable.

3.3 The document does not reflect the level of input claimed by the Nicol Stephen in his letter to the Committee. The NRP does not mention Scotland until page 14 and there is an implicit assumption that what is good for the UK is good for Scotland.

3.4 The consequence of poor consultation is a lack of ownership and consensus over the aims and measures outlined in the NRP. This is a lose-lose situation and must be remedied for the 2006 NRP.

Content

3.5 The STUC is dismayed by some of the assumptions underlying the NRP. For instance, why does Government have to promote ‘flexibility in labour markets’? It is interesting that even the OECD, whose 1994 Jobs Report proved so enduringly influential in promoting flexible labour markets,
has recognised recently there is more than one road to growth\textsuperscript{5}. There is a large and accumulating body of evidence demonstrating that levels of Employment Protection Legislation (EPL) have little impact on growth. Advocates of flexible labour markets must explain the success of, for instance, the Scandinavian countries.

3.6 The STUC is also disappointed that, once again, we are confronted by the Treasury’s five drivers of productivity which contain no direct reference to the treatment of those are supposed to become more productive. The sixth driver of productivity must be the highest standards in employment practice and industrial relations. Innovation is about more than product and service development. Innovation can be about the development of excellent employment standards and the ability to cope efficiently with organisational change.

3.7 The focus on deregulation is wholly misplaced. Deregulatory activity in Whitehall has reached fever pitch – leading to a paradoxical situation where huge numbers of civil servants are engaged in identifying, measuring and reducing the ‘burden’ of regulation on employers. Paradoxical because this activity has been provoked by the bleatings of the very people who when they are not arguing for deregulation, are arguing that the public sector is too big.

3.8 International survey after international survey confirms that the UK is a good place to do business\textsuperscript{6}. Flying in the face of all the available evidence, the debate remains focused on ‘better’ regulation aimed at reducing ‘burdens’ (to use the tiresomely pejorative phrase beloved of employer organisations) on business. However, the STUC is clear that the policy impetus at European and UK levels is towards deregulation; a process that can only result in less protection in the workplace. It is also a diversion from the task of creating the high performance workplaces and high wage, high skills economy to which both trade unions and Government aspire.

3.9 Let us be clear, the STUC:

- will always support measures aimed at assisting employers to comply with clear and efficient regulation; and
- recognises that regulation cannot remain static in a modern economy – it must develop to remain relevant.

3.10 However, effective regulation is unavoidable if we truly aspire towards:

\textsuperscript{5} OECD, Boosting Jobs and Incomes – policy lessons from reassessing the OECD Jobs Strategy, OECD publications 2006

\textsuperscript{6} World Bank ‘ease of doing business’ rankings
http://www.doingbusiness.org/EconomyRankings/
OECD website
http://www.oecd.org/document/43/0,2340,en_2649_34111_35456619_1_1_1_1,00.html
• modern high performance workplaces which maximise employment opportunities through support for working parents;
• healthy and safe workplaces;
• fair and equal pay; and
• sustainable economic development.

3.11 The STUC welcomes and endorses the Scottish Executive's sensible and measured approach to regulation. We also believe that those who promote both deregulation and sustainable economic development must be held to account in reconciling these contradictory objectives.
4 Scotland’s performance

4.1 The Deputy First Minister’s response to the Committee refers primarily to the two main EU level targets: expenditure on research and development should be at least 3% of GDP by 2010 and the employment rate should be at least 70% by 2010.

R&D

4.2 The arguments and statistics around Scotland’s poor R&D performance are well rehearsed and nothing is to be gained from this submission going over old ground. Some things are clear: performance is improving but not quickly enough and there is a long way to travel before we reach the EU target. The STUC’s recent response to the Enterprise Committee’s Business Growth Inquiry recognised the range of activity the Executive is undertaking to address this long-standing problem but also argued that

“Whilst accepting the pivotal role of the public sector, a role too often maligned and disparaged by many in Scotland’s business community, we believe the report could have been more balanced in emphasis, challenging the private sector to increase and improve investment”.

“The report could also have studied the range, value and most importantly take-up of current co-investment and R&D support programmes in more detail. The salient point here is that some of the current programmes are not fully utilised (e.g. RSA) suggesting that the problem might not be the level of public sector support but rather the private sector’s unwillingness to invest”.

More and better jobs

4.3 Scotland’s employment rate clearly compares favourably with the average rate for Europe and exceeds the Lisbon target. The STUC acknowledges the success of the UK and Scottish administrations in growing the employment rate. Some other factors should be taken into account however:

- The ongoing decline in manufacturing jobs – contrary to current orthodoxy, it is not inevitable that manufacturing will continue to decline. Some member states have been far more successful in retaining manufacturing employment.
- Regional inequalities (i.e. within Scotland) - the legacy of the disastrous labour market policies of the 80s and 90s have left us with pockets of persistently high economic inactivity.

4.4 Focusing only on the employment rate can distort comparisons of labour market performance in different European countries. Typically, rates of inactivity are higher in Scotland (far higher in some sub-regions) than the EU average.
4.5 The revised Lisbon strategy focuses on three policy groups, one of which is the creation of more and better jobs. Another is making Europe a more attractive place to invest and work. It is very disappointing that the UK NRP (and, unfortunately, much policy development at the Scottish level) does not recognise the pivotal importance of fair employment as a driver of productivity and competitiveness.

Indicators

4.6 It is the STUC’s view that indicators should be developed that capture the full range of the Lisbon Strategy’s aspirations. In order for policy makers to focus on the right set of policies, statistical indicators to monitor whether progress is being made are important. For example, using an indicator such as ‘productivity per person’ provides succour to those member states nurturing a culture of long working hours while the dismal performance in these same countries in terms of productivity per hour is being concealed. Moreover, in the set of indicators selected by the Kok Report, essential indicators concerning social Europe as a productive force are simply missing. Examples might include statistics on lifelong learning for workers, on the number of children living in poverty and on the extent to which unemployed workers are being assisted in their search for jobs.

5 The Lisbon Co-ordinator

5.1 The STUC was not aware until recently that the Deputy First Minister had been appointed Scotland’s Lisbon Co-ordinator. That said, his joint role as DFM and Enterprise Minister renders him ideally placed to co-ordinate activity covering the full range of economic and social issues. The STUC looks forward to working with Mr. Stephen in his capacity as Lisbon Co-ordinator in the future.

6 Conclusion

- Trade unions have generally supported the Lisbon Strategy but have had to remain intensely vigilant due to the ongoing lobbying of those stakeholders only too happy to see the social element lost altogether.

- The revised strategy must be about making Europe, and Scotland, a better place in which to live and work, as well as a better place in which to do business. Indicators must be developed that capture this aspiration.

- The STUC is wholly dissatisfied with the process leading to completion of the UK NRP. The content is also disappointing and does not reflect the range of the revised strategy or the position of a devolved Scotland within the UK as a member state.

- The Deputy First Minister is well placed to act as Scotland’s Lisbon Co-ordinator.
SUBMISSION FROM SCOTTISH ENTERPRISE

Thank you for inviting Scottish Enterprise (SE) to contribute to the above inquiry, I am pleased to offer some observations on behalf of SE in response to the main areas of focus in the Call for Evidence. In line with the remit of SE, my comments concentrate on our activities that are most pertinent to the inquiry – research and development (R&D) and employment but also try to reflect the very extensive range of activities contributing to the targets in the Lisbon Strategy.

SE is the Scottish Executive’s main economic development agency for lowland Scotland. Our goal is to make a sustainable and measurable impact on the Scottish economy, and as such our operations are driven by ‘A Smart, Successful Scotland’ (SSS), the Executive’s strategy for growing the Scottish economy.

The letter from the Deputy First Minister that accompanied your Call for Evidence helpfully highlighted the links between the Lisbon Strategy and the Executive’s Framework for Economic Development in Scotland (FEDS) and SSS, which, together, form the principal guidance for SE. The Lisbon Strategy is very challenging for many Member States; the UK National Reform Programme, FEDS and SSS show how we are prioritising and addressing the main challenges. The following comments hopefully clarify SE’s approach to monitoring progress towards our objectives and illustrate the nature and scale of the contribution we make.

In light of the fit between the Lisbon Strategy and the Executive’s strategic guidance, it is probably worth noting at the outset that most of SE’s work contributes to the general pillar ‘boosting jobs and growth’. Scotland’s economic performance across a broad range of indicators is monitored by the Joint Performance Team (JPT) comprising the Scottish Executive, SE and Highlands and Islands Enterprise, which produces an annual report. The latest available position and relative change for the lead indicators in SSS since 1999 are shown in Annex 1.

The JPT’s latest report7 (2005) recognises the challenge “…to achieve a decisive breakthrough in the indicators of the strength of Scotland’s business base, through building up the stock of businesses, raising their levels of innovation and productivity and increasing their global competitiveness”. While this is a challenge, a great deal of progress can be made by building on important Scottish strengths:

- global players in industries like energy and financial services;
- strong performance in emerging sectors with high growth potential such as life sciences, electronic markets and renewables;
- a world-class higher education and research base; and
- a highly qualified workforce.

Annex 1 illustrates many of the specific challenges towards which SE aims to contribute and it should be apparent that many of these relate closely to the aims of the Lisbon Agenda.

In some cases, for example, Business R&D, the gap presents a formidable challenge for Scotland. Indeed, the European Commission’s assessment of the UK’s National Reform Programme for Growth and Jobs notes that “further policy initiatives will be needed in order to achieve the Government’s 2.5% R&D target for 2014.” While this comment applies to overall R&D investment (business, government and higher education) it is particularly pertinent to Scotland because the level of business investment in R&D here is below the UK average.

Our approach to prioritising and delivering our activities is evolving. This will be a continual process but it may be helpful if I indicate how we are currently setting about our main tasks. Put simply, in delivering our strategy, we will be working with those companies with the most potential for business growth and where we can make the greatest difference. We will be focussing on a number of priority industries and applying a geographic dimension that recognises the potential to drive economic growth in the context of coherent metropolitan regions. Our priority industries are also differentiated on the basis of ability to grow at international, national and regional levels.

Stimulating business investment in R&D is a focus for much of our effort and accordingly, we pursue a range of policy responses. For example, we have a range of interventions that are geared towards boosting both R&D and innovation more generally, including R&D Plus, Proof of Concept, Enterprise Fellowships and the Scottish Manufacturing Advisory Service. We are also in the course of developing a new Innovation Intervention Framework which aims to address many of the weaknesses that characterise Scotland’s innovation performance. Our relevant network products reflect the innovation process and aim to:

- develop awareness throughout Scottish industry of the importance of innovation;
- initiate new levels of innovation activity in Scottish firms;
- assist those firms to develop new products and processes; and
- exploit their economic potential.

The diagram in Annex 2 illustrates our overall approach in developing a pipeline of appropriate support.

As well as working directly with companies, the Committee will be aware that we have recently established three Intermediary Technology Institutes to help bridge the gap between Scotland’s ability to generate new intellectual property and then to commercialise it. We have other specific

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projects that are designed to foster commercialisation and are thus seeking to assist companies and improve the functioning of the wider innovation system.

In addition, SE’s work under the Skills and Learning theme broadly aims to increase the productivity of Scotland’s workforce as well as the number of those in work; labour market intelligence is provided by Futureskills Scotland and Careers Scotland seeks to match our people with the jobs of tomorrow.

Our Global Connections thrust also contributes in various ways, for example, through attracting more high value activities to Scotland and by assisting Scottish companies to increase their involvement in global markets.

Many of our activities are connected and while they can be described separately they are often delivered in a ‘portfolio’ approach to customers. Various initiatives can contribute to the same target and it is often difficult for our customers to attribute specific outputs, or changes, to specific interventions. It is important, however, that we continue to develop our understanding of the most effective means of promoting growth and job creation. Thus, in addition to the JPT’s monitoring work against the key indicators mentioned above, we prepare an annual evaluation plan which is also overseen by the JPT. The SE Board has also established an Operations Committee and a Performance Committee to scrutinise relevant issues in depth.

While the relaunched Lisbon Strategy concentrates on growth and jobs, it is, intended to complement the EU’s Sustainable Development Strategy. Both a SSS and Going for Green Growth: a green jobs strategy for Scotland emphasise the economic benefits of addressing environmental issues. In practice, business innovation typically results in more efficient new products and processes and is therefore compatible with sustainable development. However, we are further seeking to promote sustainable development in Scotland, for example, from new business opportunities in sustainable technologies like marine energy, fuel cells, biofuels, waste processing and waste management. We will also continue to work with partners to deliver ‘Choosing our Future’: Scotland’s Sustainable Development Strategy.

In the future, the EU Framework Programme for R&D will become increasingly important to Scotland particularly as the Structural Funds decline. We are working closely with the Scottish Executive to develop the existing Scottish Proposal Assistance Fund for the Framework Programme in the next funding period. This approach to the 7th Framework Programme (FP7) aims to provide support to applicants throughout the entire project lifecycle and increase Scottish engagement, particularly business participation, in FP7 for the 2007-13 period. We are seeking to use FP participation as a catalyst for economic development and to attract private R&D spenders to Scotland. In addition, we are aiming to align our Structural Funds engagement, following the integration of the Lisbon and Cohesion
policies, closely to Lisbon priorities and our SSS goals and to support later stage activities which may be supported by FP or other competitiveness programmes.

Together, these programmes will be the main funding instruments for delivering the Lisbon objectives. I believe that our strategic approach to maximise access to, and the economic development of, EU programmes will support Scotland’s economic development.

In conclusion, our remit is to fulfil our obligations set by the Scottish Executive and the Scottish Parliament. In this context, we can hopefully assist the committee to understand Scotland’s performance and progress towards the Lisbon targets. The Lisbon Strategy is the result of a process that recognises the long-term aspirations for the EU. In many ways, it defines the international economic development challenge that our strategic analysis had already recognised and that we have been striving towards. (Our latest operating plan outlines more fully how we aim to play our part.) The challenges for Scotland are correspondingly long-term and therefore require long-term political commitment. The Committee’s intention to use this inquiry to set a benchmark for a similar inquiry closer to 2010 seems very appropriate.

Annex 1
## Latest Available Position and Relative Change for Lead Indicators since 1999

<table>
<thead>
<tr>
<th>Indicator</th>
<th>International Quartile Position</th>
<th>Change in Gap Since 1999</th>
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<tbody>
<tr>
<td></td>
<td>With UK</td>
<td>International Comparators</td>
</tr>
<tr>
<td></td>
<td>1st Quartile Average</td>
<td>Number of Comparators</td>
</tr>
<tr>
<td><strong>Overall Progress</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1a. Gross Domestic Product per Head of Population</td>
<td>2</td>
<td>▲</td>
</tr>
<tr>
<td><strong>Growing Businesses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2b. New Business Starts per 10,000 ITEA</td>
<td>3</td>
<td>▲</td>
</tr>
<tr>
<td>3a. Percentage of Businesses Trading Online</td>
<td>1</td>
<td>▲</td>
</tr>
<tr>
<td>4a. Business Research and Development as % of GDP</td>
<td>3</td>
<td>▲</td>
</tr>
<tr>
<td>5a. Relative Productivity Levels in Scottish industry</td>
<td>2</td>
<td>▼</td>
</tr>
<tr>
<td><strong>Global Connections</strong></td>
<td></td>
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<tr>
<td>6a. Cost and Coverage of Broadband</td>
<td>2</td>
<td>▲</td>
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<tr>
<td>7a. Proportion of Employers Exporting</td>
<td>1</td>
<td>▲</td>
</tr>
<tr>
<td>8a. Graduates as a Percentage of the Workforce</td>
<td>2</td>
<td>▲</td>
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<tr>
<td>9a. Net Migration as a Percentage of the Population</td>
<td>3</td>
<td>▲</td>
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<tr>
<td><strong>Skills and Learning</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10a. Employment Rate</td>
<td>1</td>
<td>▲</td>
</tr>
<tr>
<td>11a. Proportion of 16-19 Year Olds Who are NEET</td>
<td>3</td>
<td>▲</td>
</tr>
<tr>
<td>12a. Reducing the Gap in Unemployment</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>13a. Proportion in Employment Undertaking Training</td>
<td>1</td>
<td>▲</td>
</tr>
</tbody>
</table>

**Notes:**

1. The gap since 1999 is calculated on the basis of the Scottish value of the indicator as a percentage of the OECD first quartile and UK averages for the latest available year compared to 1999. The percentages are rounded to whole numbers to exclude minor shifts.

2. ▲ indicates the gap narrowed, or advantaged increased, ▼ indicates the gap widened, and – indicates no change.

3. While Indicator 2b is not a lead indicator, the figures are included as no internationally comparable data were available for Indicator 2a (high growth firms (business starts)). UK comparisons refer to VAT registrations per 10,000 population and international comparisons to the Global Entrepreneurship Monitor Total Entrepreneurial Activity (TEA) Index.

4. Under Indicator 6a, data refer to broadband coverage. Cost data are available for only a limited number of countries.

5. International and regional comparisons are not available for Indicator 12a which seeks to measure variations in unemployment within Scotland.
SUBMISSION FROM UNIVERSITIES SCOTLAND

The revised Lisbon strategy reflects a growing consensus throughout the world that the only way to achieve sustained economic growth is to invest in knowledge, skills and innovation. Universities are an important driver for the three policy areas that make up the revised Lisbon strategy: making Europe a more attractive place to invest and work; knowledge and innovation for growth; and creating more and better jobs. Is it wrong to assume that higher education’s main role in the knowledge economy is simply educating students in fact their contribution is much more direct and multifaceted than that. They attract the best and brightest to live and work in Scotland, provide industry with highly-skilled graduates and develop new technology that will allow Scotland and in turn the European Union to lead the rest of the world in the development of key sectors. It is imperative that we get this right. If we fail to invest in research, new technology, knowledge and skills, we put at risk the economic competitiveness of Europe for generations to come.

Universities Scotland submission covers three main themes, employment; human capital, and research and development, and draws these together in a concluding section explaining the importance of universities as hubs for economic growth. This will show higher education’s contribution to achieving the Lisbon strategy and suggest ways in which we might improve Scotland’s performance in these areas.
Employment

A low unemployment rate is a key identifier of a thriving economy. What must also be considered is the type of jobs that are in demand and how these will be filled. If the European Union wants to have an economy that can compete in a global market place, we must plan more effectively for the future and look towards the rest of the world for best practice.

The Lisbon strategy is based on ensuring that Europe has a pool of highly skilled creative employees that will help to create an economy with low unemployment and sustain economic growth. A recent Futureskills Scotland report illustrates why graduates are an essential attribute of the knowledge economy.

The employment rate for graduates (all graduates, not just new graduates) in Scotland in 2001/03 is 89%, which is higher than for non graduates, and the unemployment rate for graduates in Scotland in 2001/03 is only 3%. Graduates not only have a good employability record but they are also employed in jobs that use the relevant skills acquired at university. As this figure illustrates, 84% of graduates in Scotland were employed in graduate level jobs in 2001/03.

Higher education is the only sector that can make the Lisbon strategy a reality. The cutting-edge skills which graduates learn at university are brought into the workplace and help to transform businesses – improving methods, generating new ideas and helping to improve productivity. Worryingly, where Scotland once used to be leading the EU, we are now falling behind. America, Canada, Norway, Netherlands & Denmark all have a higher percentage of graduates in the workforce than Scotland. Failure to invest now in skills and knowledge will have potentially disastrous effects on Scotland’s economy in the future.

Well-resourced universities with world-class facilities, also encourage international researchers and academics to come and work in Scotland. Scotland’s higher education institutions and the environment that they create are a powerful driving force for attracting people with sought after skills to Scotland. Talented teams of academics and researchers attract industry, which are keen to capitalise on the skills and experience of these teams. The Scottish economy benefits enormously from the clusters of academics, researchers and industry set up around universities.

Investing in people

Part of the Lisbon strategy is to increase both the quality and quantity of the workforce (or human capital) of the European Union. The higher education sector is central to creating a workforce that is highly-skilled, creative and flexible in its ability to respond to and generate innovation.
To achieve this vision, we have to be more serious about investing in lifelong learning. Lifelong learning is all about making learning accessible and available throughout someone’s lifetime. A major part of lifelong learning that universities offer is Continuing Professional Development (CPD). CPD ensures that people have the right skills and the most up to date skills to do their jobs and to contribute to the Scottish economy effectively. CPD is training and upskilling which is provided by universities and is designed for the specific skills needs of specific employers. A few years ago Universities Scotland surveyed member institutions and identified more than 6,000 businesses which had purchased training from the Scottish higher education sector in the previous year at a cost of more than £33 million. CPD activity accounts for around five per cent of full-time equivalent student numbers at Scottish higher education institutions.

Scotland is leading the rest of Europe in creating and developing a credit and qualifications framework. The Scottish Credit and Qualifications Framework (SCQF) was developed to meet the needs of Scotland's learners and was created by bringing together all Scottish mainstream qualifications into a single unified framework. Other European governments are looking to Scotland for advice and expertise on how to create such a framework that undoubtedly makes lifelong learning easier and more accessible.

Research and development

If Europe wants to lead the world in developing new technology and creating innovative industries then we must be serious about investing in research and development. The American economy is founded on the principles of innovation, creativity and the pursuit of new ideas. Other countries like China and Japan have also recognised that the only way to compete in the global economy is to make a commitment to investment in research and development.

Research in Scottish higher education institutions is funded from a number of sources. Broadly, the physical and human infrastructure for the research base in Scottish institutions is funded by the Scottish Funding Council (SFC), while funding for specific research projects and programmes comes from a much wider range of sources.

In 2003-04, 30 per cent of the higher education sector’s research income came from the research councils, 26 per cent came from charities, 20 per cent from government, 9 per cent from industry, 9 per cent from the European Union, and 4 per cent from overseas.

The income universities receive for research from the Scottish Executive, which was £244 million in 2005-06, is distributed by the Scottish Funding Council (SFC) in three main grants: the Main Quality Research Grant, the Knowledge Transfer Grant and the Strategic Research Development Grant.

The Main Quality Research grant exists to support high quality research and enable Scottish institutions to remain competitive in securing charity funding
for research. It allows institutions to bid for project grants from research councils, charities, government departments and industry. The Knowledge Transfer Grant helps universities do things like commercialise research, support the dissemination of research outcomes and develops the expertise of staff to support institutions’ knowledge transfer activities. The Strategic Development Grant is to help create opportunities to bring together new and existing strengths in the research base and strengthen areas of the research base that are of strategic importance to Scotland.

While we are grateful for the additional resource allocated to research in the most recent grant allocations, this does not go far enough. More new money is needed to allow universities to undertake the kind of research that will allow Scotland to become a world leader in the development of key industries. However, universities institutional autonomy must be maintained. This means that research shouldn’t be prescriptive. Some of the world’s best discoveries have taken years to develop, but if we invest in this now, we will reap the benefits in the future.

As the figures above show, only 9 per cent of the sector’s research grant and contract income comes from industry. Scotland has historically had a low rate of business investment in research and development. The higher education sector in Scotland recognises the importance of connecting academia with business to maximise creativity within industry and to capitalise on the talent within Scotland. Interface: knowledge connections for business is a collaborative project that is designed to match up the requirements of industry with the knowledge and the talent based in Scotland’s institutions. This project has already created over 50 successful links with industry and is attempting to reverse a long-term trend of low business expenditure in research and development in Scotland.

Universities Scotland supports the target of at least 3 per cent of GDP invested into research and development by 2010. However we have to be realistic in how we achieve this target. If we want Scotland to be a country that leads the world in developing new technology then our actions must reflect this. It is crucial that we do more to turn around the historic low rate of investment in research and development by industry.

**Higher education as a hub**

The direct practical outputs of higher education as described above are precisely those which lead to economic growth. Equally there are wider outcomes which set social and economic conditions essential to sustainable economic growth in the age of the knowledge economy. The best conceptual model for understanding those roles is to see higher education as a hub around which much of the activity of a knowledge economy coalesces. The case for a more enlightened approach to understanding the role of the university in fostering a knowledge economy is made by American economic development theorist Richard Florida:
“A theory of sorts has been handed down that assumes a linear pathway from university research to commercial innovation to an ever-expanding network of newly formed companies. This is a naive and mechanistic view of the university’s contribution to economic development. While the university is a key institution of the Creative Economy, what’s not so widely understood is the multifaceted role that it plays. It is not there merely to crank out research projects that can be spun off into companies. To be an effective contributor to regional growth, the university must play three interrelated roles that reflect the 3T’s of creative places – technology, talent and tolerance

- Technology: Universities are centres for cutting edge research in fields from software to biotechnology and important sources of new technologies and spin-off companies.

- Talent: Universities are amazingly effective talent attractors, and their effect is truly magnetic. By attracting eminent researchers and scientists, universities in turn attract graduate students, generate spin-off companies and encourage other companies to locate nearby in a cycle of self-reinforcing growth.

- Tolerance: Universities also help to create a progressive, open and tolerant people climate that helps attract and retain members of the Creative Class”

Florida argues that the presence of top-quality higher education institutions is essential not only for the specific things they do but for the conditions they set in an economy which enables it to attract the kind of talent and businesses which will help it to grow. He believes that if factories were the hub of the industrial economy, then universities are the hub of the knowledge economy. “In my view, the presence of a major research university is a basic infrastructure component of the Creative Economy – more important than the canals, railroads and freeway systems of past epochs – and a huge potential source of competitive advantage... The Boston high-tech miracle is due in large measure to MIT. Silicon Valley is unthinkable without Stanford University, its long-time creative hub.”

It is also helpful if investment in higher education is seen in these terms. Yes, expenditure on higher education gains the public sector specific services but that expenditure has a transformational effect which exerts a much greater influence on the economy than the sum of those services.

If we want to make the Lisbon Strategy more than just a vision and if we want to see a Europe where we lead the world in new technology and ideas then there is no shortcut to achieving this. We must invest in the right areas and we must do it now.

The Scottish Parliament has no more effective lever for promoting economic growth than investment in higher education. If economic development is a
priority, public expenditure must reflect that. Universities Scotland will be submitting a case to the Spending Review in 2007 with specific details about how we achieve this through investment in higher education.

SUBMISSION FROM BIODUNDEE PARTNERSHIP

The BioDundee Partnership welcomes the opportunity to contribute to the Committee's Inquiry and is gratified that our initiative is recognised within the context of the Lisbon Strategy.

Background

BioDundee is a local partnership between the public, private and academic sectors that promotes the growth of the life sciences sector. The lead partner is Dundee City Council and the main funders are Dundee City Council, Scottish Enterprise Tayside and the European Union. Contributions of funding and in kind support are also received from the private sector, the university sector and the Scottish Crop Research Institute.

BioDundee was formed in 1998 when there were approximately 5 life sciences companies located in the city. Employment at this time within the sector was less than 1000. However it was recognised then that these companies had the characteristics of an embryonic cluster, and that it was important to underpin this growth to maximise the potential it offered.

BioDundee currently covers the geographical areas of not only Dundee but the wider Tayside area and also St Andrews.

Objectives

The project has 4 fundamental objectives:-

- To stimulate commercial joint ventures between the existing Dundee research base and external organisations thereby creating jobs, encouraging the establishment of new business and the growth of existing SMEs
- To stimulate additional investment in the commercialisation of Dundee’s current and future research projects by venture-capitalists / investment firms, leading to the creation of new indigenous companies
- To stimulate the development of an infrastructure of local support services and supplier companies to the life sciences/healthcare industry
- To encourage trade and technology transfer between Dundee organisations and businesses, and external companies and
organisations, thus encouraging the competitiveness and growth of SMEs

Activities

The achievement of these objectives is dependent on the rest of the Life-Sciences world knowing that a body of knowledge, talent and commercial opportunity exists in Dundee. Therefore, the starting point for pursuing these goals is awareness raising and promotion. The BioDundee initiative currently undertakes the following core activities:-

**Marketing**
It has developed and delivers a marketing campaign which brings together the different elements of the "Dundee" selling proposition to position Dundee's life Science sector in the global market place. The cornerstone of this campaign has been the creation of the "BioDundee" brand which is now widely recognised. The initiative also runs a website and publishes a newsletter.

**Conference**
The partnership organises an Annual International conference which has now grown into a 2 day event, attracting internationally renowned speakers and last year over 300 delegates participated from across the world.

**Networking**
BioDundee cultivates networking by ensuring that the sector, locally are well interconnected. This is enhanced by facilitating engagement with national and international organisations and contacts through the organisation of specific networking events and also initiating dialogue between relevant parties.

**Training**
A number of events and seminars are organised which offer training and development for those within the sector. These are identified by the partners and organised and promoted by BioDundee.

**General Support**
BioDundee is the sum of the knowledge, skills and experience of its component parts:- its partners, each of whom offer particular specialisms within the sector. BioDundee through its co-ordinator, the website, and publications acts as a one stop shop for those seeking this information, advice and support.

**Progress to date**

The local life science sector has grown and developed expertise in specific research activities which are world class. These attributes provide Dundee with a unique advantage and a significant economic opportunity.
There has been a concerted effort since 1998 through BioDundee marketing activity and the partnership to ensure that Dundee and the wider region maintains and builds on this reputation. We believe we have made substantial progress in this and that Dundee's world class research excellence is now recognised in a great many of our target markets. It is vital that this work continues to maintain Dundee and Scotland's position on the world stage.

Today, in 2006 there are 25 core biotech companies based in the area and the sector (including those in academia) accounts for almost 4,000 employees. Estimates of its value to the local economy suggest it now accounts for about 16% of GDP. The Partnership is convinced that there is still extensive growth potential within the sector.

The following examples of outcomes have been organised in response to the Inquiry's specific interests.

**Research, Development and Innovation**

As a result of innovative practice, Dundee has uniquely strong interdisciplinary links and the value of this can be seen in the range of research centres which have been created in the past 5 years alone. These institutions are examining some of the most innovative areas of medical research.

Key examples include:-

*Post Genomics and Molecular Interactions Centre*  
(created with £4.3 m from the Wellcome Trust)

*Division for Signal Transduction Therapy*  
(a unique consortium between the University of Dundee, the Medical Research Council and 6 of the world's leading pharmaceutical companies, valued at over £15m currently)

*Health Informatics Centre*  
(Tayside is leading Scotland in the rapidly developing area of health informatics. Researchers in this area attract between £2-3m per annum in research grants.

*Sir James Black Centre*  
(A new £20m centre for interdisciplinary research at the University of Dundee officially opened earlier this year which houses a further 180 scientists. These people are working in an inter and cross disciplinary environment with commercial aims)

The city's life science sector has a enviable record in securing research investment and the University of Dundee alone brings in over £50million in research income annually.
However, the Lisbon Strategy identifies the lack of private sector investment in research and development as a key barrier to growth. Whilst there is a recognition of this gap in general terms, the contribution made by some should not go unnoticed. Many of the life science companies locally are research driven and for example Cyclacel, IDMOS and Tayside Flow Technologies, invest between 80 - 90% of their expenditure in research.

BioDundee played a role in highlighting Scotland's strengths to Wyeth. Wyeth is one of the world's largest pharmaceutical companies. They have announced that they will be developing the world's first Translational Medicine Research Centre in Scotland next year with a £30m investment. The project involves 4 of Scotland's universities as well as the NHS trusts and its laboratory hub will be centred in Dundee. Conversations about the opportunities in Scotland were progressed at the BioDundee annual international conference in 2003. Wyeth attended this event as a speaker and met with key individuals during this conference's events. This project illustrates what can be achieved for Scotland when the various partners work together.

At a national level there are a range of schemes which are helping move research from academia into commercial opportunities. BioDundee has helped promote and raise awareness of these through local partnerships and information sessions.

In addition locally, a commercialisation award scheme is in place which provides a small amount of funding to advance a specific piece of technology or idea towards commercialisation and has been used as pre-Proof of Concept funding. Other projects have received funding through NESTech (the University Challenge Fund for local area)

Infrastructure is a challenge for the sector as it grows. Property costs for life science companies, given their specialist laboratory requirements, tend to be higher than other industries. At a local level both through Scottish Enterprise Tayside and Dundee City Council major investment of over £11.5 million has already taken place with the development of both the Technopole and the Medipark for life science companies. However further investment of this nature will be required in the coming years if the sector continues to grow as anticipated. "No buildings, no biotech" was the way one local life science entrepreneur put it.

**Employment, labour market and education**

The sector has grown in terms of employment both nationally and within the BioDundee area. Life sciences now account for almost 5% of local employment.

Dundee's employment growth has been due to the development of locally grown companies such as Cyclacel, CXR Biosciences, Axis-Shield and others. As these companies have emerged, BioDundee’s support in
marketing Dundee has assisted in ensuring the sector could attract talent and investment.

The first baseline report (1998) undertaken as the sector developed here, highlighted as a primary concern the inability to attract scientists to Dundee to fill positions. The most recent survey with our sector shows this is no longer an issue. Indeed as evidence of how far we have progressed a survey conducted by leading journal, "The Scientist", of over 2000 US based scientists recently revealed Dundee is the 3rd most desirable place to work outside North America. The Scientist surveys have also voted Dundee as the no 1 place to work in Europe for the last 2 years in a row.

In addition, inward investment companies such as Karl Storz and Upstate located in the City because they were aware of the research happening here and saw the benefit of co location.

The sector has matured to the extent that we now see churn in employment between the academic and commercial sector. The result of this is increased commercial experience returning into the universities and vice versa.

We have witnessed at a local level that as well as attracting highly skilled scientists to the city, an increasing number of local people are now benefiting. Dundee College (also a BioDundee partner) has for the last 4 years offered an ESF funded course aimed at training in biotech skills- this is aimed at technician level. Many individuals and companies have made use of this training provision to support their growth plans.

Life science generally employs more women than other industries and BioDundee has ensured that women working in the sector here have been given a high profile locally and nationally and internationally through our activities.

**Conclusion**

The BioDundee initiative has had a positive impact in raising the profile of the life sciences sector in the Dundee city region. In doing so it has helped to secure new investment, create new commercial relationships, new job opportunities and has stimulated the provision of new types of training courses for people in the area.

This submission has provided some specific examples that illustrate how our initiative is contributing, and can continue to assist Scotland achieve jobs and growth and thus play its part in delivering on the Lisbon Agenda. BioDundee was born out of local knowledge, innovation and commitment, and we believe that this local partnership approach demonstrates that those high level objectives might be attainable if stakeholders at all levels are included in the challenge.
SUBMISSION FROM iSLI

Introduction

The Institute for System Level Integration is most grateful for the opportunity to contribute to the above inquiry. Established in 1998 iSLI directly contributes to the core aims of the Lisbon Strategy via its involvement in postgraduate education, research and increased employment through support of emerging high technology companies. The Institute is also contributing globally in that it is recognized world-wide for its specialist contribution to microelectronics design having involvement with many overseas companies.

We consider that iSLI provides an ideal role model for future government investment initiatives and we would be pleased to pass on our experience of developing a high technology institute to interested parties. We have provided advice to government agencies in Australia, Japan, China and South Korea on the creation of similar Institutes.

The Institute is in the forefront of developing microelectronics technology. This area is crucial to a Smart Successful Scotland in that electronics and its associated software underpins every other high technology endeavour. Biotechnology, defence, renewable energy developments etc. all rely on electronics for control, monitoring and measurement. In a world situation where manufacturing is migrating to low cost economies such as China and Eastern Europe it is crucial to maintain the highest possible level of design and innovation skills within the Scottish economy.

The Institute is an example of successful investment of government funds. Whilst iSLI is still of modest dimensions it is growing, year on year adapting continuously to the changing technology requirements of the microelectronics sector.

The Institute for System level Integration

iSLI delivers post graduate education on its own campus in Livingston providing students with a unique academic and business environment. We provide highly skilled personnel, increased research and development activity and enhanced support for emerging high technology companies, supporting start-up companies and creating graduate level jobs. The Institute for System Level Integration, formed in 1998, was the world’s first centre of excellence in the field of system level integration and microelectronics design. iSLI’s founder members are the Universities of Edinburgh, Glasgow, Strathclyde and Heriot Watt in partnership with Scottish Enterprise. We draw on world-class expertise from the electronics, electrical engineering and computer science departments of these leading academic institutions. Uniquely graduates are awarded degrees jointly by all four universities.
iSLI’s activities produce highly skilled design engineers and researchers to meet the needs of the rapidly changing global microelectronics industry. Our MSc and engineering doctorate graduates are highly regarded and are recruited by global companies and significantly by Scottish SMEs and start-ups. An iSLI design support group composed of retained graduates and professional engineers provides specialist help to start-up companies experiencing difficulties with new and emerging devices and processes. In early 2007 iSLI will be the Scottish hub for the provision of world class design tools and software free of charge to SMEs and startup companies. In addition to our core funding provided by Scottish Enterprise we are also financially supported by EPSRC, SFC and to an increasing extent by industry.

iSLI Achievements

The iSLI student population is drawn from countries across the world and we have a broad mix of UK, EU and international students, many of them from South East Asia. Many wish to stay on in Scotland after graduation and the First Minister’s “Fresh Talent” initiative has greatly improved our ability to retain exceptional foreign graduates.

MSc
In 1998, our first year, our masters course was composed of 8 students. At present enquiries for places on this course in 06/07 currently exceed 600.

EngD
Our flagship programme the Engineering Doctorate four year course provides potential leaders for industry. The course typically runs with 8 students entering each year. This year we have received 42 applications for the next intake. These courses are jointly sponsored by EPSRC and industry, involving new product development for the companies involved.

CPD and Distance Learning
Numerous Continuing Professional Development courses are provided annually to allow individuals in employment to enhance their design skills or acquire knowledge in particular specialist areas of design. Summer schools and “masterclasses” are organized in specialist topics, taught by world leaders in their appropriate field. These courses are well supported by companies who cannot afford to release engineers to full time courses but need staff to be constantly re-skilled.

Our Distance learning courses are being undertaken by students in many countries.

EDSS
In April 2005 iSLI was awarded a three year contract by Scottish Enterprise to provide design support services to Scottish SMEs and larger companies who wish to utilize microchip technologies but typically lack skills in embedded processing, software development and use of FPGAs. To date a
number of companies have been assisted, some outwith the electronics sector and employing microelectronics in their products for the first time.

**MEMS**

iSLI was selected in 2006 to lead a design partnership involving the universities of Heriot Watt and Strathclyde teamed with the Semefab silicon foundry in Glenrothes to provide advanced integrated MEMS Micro Electronic and Mechanical Systems (MEMS) prototyping designs for the commercial sector. This award is allowing the Institute to expand its capability addressing wider system applications, providing help to a larger range of Scottish companies.

**Conclusions**

Although operating at a relatively small scale at present iSLI contributes directly to the Lisbon Strategy in terms of education and support of a growing high technology Scottish economy. We plan to continuously increase our contribution to the economy as the Institute grows, assisting other Scottish initiatives where possible.

**SUBMISSION FROM LEARNING AND TEACHING SCOTLAND**

Learning and Teaching Scotland (LT Scotland) welcomes the opportunity to give evidence to the committee on progress towards implementation of the Lisbon Strategy. We will be happy to provide further information on relevant aspects of our work in our oral evidence or in further written evidence.

“To become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion”.

The Lisbon strategy addresses a very wide range of policy issues. This submission focuses, as requested, ‘on targets in relation to education and in particular issues relating to mathematics, science, technology and engineering studies’. Recognising that other witnesses will lead evidence on the higher and further education sectors and reflecting our remit this submission concentrates mainly on school education and the contribution that LT Scotland working with its partner organisations - such as local authorities, SQA, HMIe and SEED - can make to it.

**Our Remit**

In keeping with our commitment to the national improvement agenda, Learning and Teaching Scotland aims to:

- actively promote a climate of innovation, ambition and excellence throughout the Scottish education system
- support teachers, schools and local authorities in improving the quality of education and raising levels of achievement of all learners
work to ensure that the curriculum and approaches to learning and teaching, including the use of ICT, assist children and young people in Scotland to develop their full potential

work in close partnership with the Scottish Executive and other key stakeholders to build capacity and support the delivery of a first class education that is recognised as such nationally and internationally.

This remit gives us an interest in many of the educational issues that have already been identified as relevant to the Lisbon Strategy including:

- The education and training of teachers
- Core skills
- Language learning
- ICT
- Maths, science and technology
- Making learning attractive
- Strengthening links with working life
- Active citizenship and social cohesion
- Guidance and counselling
- Recognising non-formal and informal learning
- Measuring progress

More information on work we are undertaking in relation to these and other educational issues is available at www.ltscotland.org.uk.

1. The Scottish context for the Lisbon review

A Curriculum for Excellence is one of our key priorities and we are working closely with the Scottish Executive to develop a coherent and progressive curriculum which meets the needs of all learners from 3 to 18. The purpose of the programme is to improve the learning, attainment and achievement of children and young people in Scotland. It is also about ensuring that pupils achieve on a broad front, not just in terms of examinations. It is important to ensure that children and young people are acquiring the full range of skills and abilities relevant to growing, living and working in the contemporary world. They will enjoy greater choice and opportunity to help them realise their individual talents.

Other important initiatives, for example, improving literacy and numeracy, Determined to Succeed, Assessment is for Learning, education for citizenship and for work, health promoting schools, sustainable development, financial education are all being taken forward within the Curriculum for Excellence programme.

The Minister for Education has made it clear that A Curriculum for Excellence will require teachers for excellence. LT Scotland will work with and provide support for teachers and here we have some recent successful experiences to guide us: for example Assessment is for Learning, Masterclass, Heads Together, focused support units such as our Scottish Centre for Financial Education and the Scottish Health Promoting Schools’ Unit and a range of practitioner networks. Glow (formerly the
SSDN) will be a major tool in supporting learners and teachers in new ways of learning and in communicating widely with parents and the wider community. A restructuring of the organisation giving it increased capacity for research and for liaison will allow us to respond more easily to requests for help.

Recent developments in upper secondary (and further education) give us a range of national qualifications suited to a very wide range of interests and abilities, all linked to the Scottish Credit and Qualifications Framework. Our website provides support for learners and teachers at this and other levels. The Scottish Survey of Achievement provides information for both policy makers and schools - and has the potential to do more. New Skills for Work courses will provide further opportunities for learners, mainly aged 14-16, to gain qualifications. A Curriculum for Excellence encourages a broad view of achievement some of which can recognised through arrangements such as Duke of Edinburgh Awards.

The Scottish school curriculum is not of course statutory but is based on legislation that enables Ministers to identify, and when necessary revise, national priorities. The Committee will know that when its conclusions are considered in a UK context it will be important that this is recognised.

This is the context - aimed at meeting the needs and maximising the achievements of all young people - within which Scottish schools will aim to make further progress to meeting the Lisbon objectives.

The remainder of this brief paper addresses issues specific to science, technology, and engineering.

2. Issues in science, technology, mathematics and engineering (STEM)

2.1 Development priority
The Lisbon Strategy recognised the importance of mathematics, science, technology and engineering to the economy, to some learners vocationally and to every learner as a citizen. In Scotland this has been recognised through additional funding for numeracy (and literacy) and especially for science: funding that has allowed local authorities to address locally identified priorities and for LT Scotland and other national bodies to provide support for innovative teaching approaches and for CPD to support this. There is a general consensus across STEM (science, technology, engineering and mathematics) interest groups – education, science professionals and industry - that our focus should be on helping teachers to make teaching exciting.

In 2003 the Scottish Science Advisory Committee (SSAC), established by the Royal Society of Edinburgh, expressed its concern over reduced numbers of students following science and technology courses. It identified the need to reduce the overcrowded school curriculum in science, to introduce more motivating ways of teaching, to coordinate the contributions
of a large number of scientific bodies and institutions and to ensure that teachers had access to quality CPD that both considered pedagogy and updated teachers’ own knowledge in an area of rapid change. It recommended the appointment, now made, of a Chief Scientific Adviser for Scotland. The proposals were generally welcomed.

In 2002 the Treasury set up an independent inquiry into Post–14 Mathematics Education that reported in 2004.

‘Although much of the analysis and many of the recommendations refer more directly to England than to Wales, Northern Ireland and Scotland’ the authors hoped that many elements of the report will be useful to all the devolved administrations’.

Its recommendations for mathematics education were similar to those of SSAC for science.

Teachers of mathematics, science and the technologies, including teachers of technical subjects and home economics, have all called for sustained support for development in Scotland often drawing comparisons with the national centres that have been established for science and mathematics in England.

Not surprisingly given this consensus the emphasis in Curriculum for Excellence proposals for these curricular areas is mainly on changing ways of teaching and, as HMIe have indicated, ‘a more responsive model for curriculum development to allow a cycle of continuous updating and reform to be implemented’.

2.2 Overview of Scottish attainment in STEM

Results from the Programme for International Assessment (PISA) in 2003 that assesses how well students at age 15 are able to use their skills in reading literacy, mathematical literacy and scientific literacy to solve real-life challenges showed Scotland significantly above the OECD average in mathematics and in science and encouraging evidence in mathematics that Scotland is ‘closing the gap’ in attainment between the higher and lower attainers.

Also in 2003, Scotland took part in Trends in Mathematics and Science Study (TIMSS) that surveys attainment in mathematics and science at P5 and S2.

In mathematics Scotland’s performance was not significantly different from the international average at P5 but is significantly higher at S2. In science Scotland was significantly higher at both stages.

In 2003 our own Scottish measure, the Assessment of Achievement Programme (AAP) focused on science. Results suggested that younger secondary school students were not reaching the attainment targets in science that are set by the 5-14 guidelines. AAP has been now been
replaced by the Scottish Survey of Achievement. The recently published report from the 2005 SSA survey (English Language and Core Skills) reported that in numeracy P3 pupils were coping very well, at P5 more than 80% had well-established skills at the expected level, two-thirds of P7 pupils had well-established skills at their expected level and about two-thirds of S2 pupils had made a good start at their expected level with more than 40% showing well-established skills. The 2006 survey on mathematics and the next science survey in 2007 will include assessments of mathematical and science literacies, reflecting changes suggested in the Curriculum for Excellence proposals.

Detailed figures for National Qualification presentations in STEM courses are available on the SQA website www.sqa.org.uk but a few points are worth noting here. Although there is a decline in the numbers taking Highers in mathematics and science, there is an increase in presentations at lower levels meaning that more study science for longer at more appropriate levels thus encouraging science literacy for all young people not only those who aim for science-based careers. Numbers taking Advanced Highers are increasing.

There is a small increase in 2005 figures for Highers in Home Economics (Health and Food Technology and Lifestyle and Consumer Technology) and Graphic Communication but a decrease in Fashion and Textile Technology and Technological Studies. This last figure confirms a continuing disappointing downward trend in a subject that can, as an alternative to physics, provide entry to engineering courses.

In the context of this review the committee may wish to note that the Executive’s Ambitious Excellent Schools programme will ‘benchmark Scotland against international standards, particularly through the work of the OECD, as a basis for bringing about further improvement in performance’.

2.3 Some additional notes on STEM education
2.3.1 Science
We undertook the tasks required of us by the national strategy for science and helped inform its review in 2006. We should expect the 2007 SSA survey of science to show the impact of additional funding provided to local authorities. Our Improving Science Education 5-14 programme used an action-research model involving groups of teachers from across many Scottish authorities to develop advice that, by linking with formative assessment ideas from the Assessment is for Learning programme, helped teachers to take account of pupils’ pre-conceptions and build on these. At the request of the Lifelong Learning and Education departments, LT Scotland carried out a survey of learning approaches in the four Scottish science centres. The centres are keen to develop links with LT Scotland that will help them to contribute more effectively to teacher education and continue to provide motivating experiences for pupils that complement work in schools. A project at Glasgow and Paisley universities, linked to a wider European one, is researching changes in the curriculum and in teaching that might make the sciences more attractive to students.
2.3.2 Technology
Technology often suffers from a lack of understanding of what it is. It is sometimes seen as a part of science and sometimes is not, for example when it saw no part of the additional funding for science.

Yet many science teachers believe that those aspects of technology with a strong science base are ideal in capturing pupils’ interest. Within A Curriculum for Excellence ‘the technologies’ includes Technical Education and Home Economics, often seen in the past as the main carriers for technology, along with ICT and Business Education. The number and nature of courses in the two subjects make demands on school budgets. LT Scotland has recently supplemented its primary technology materials with materials for S1/S2 that encourage enterprising work with a strong design focus in S1/S2. The potential of this area to contribute to enterprise in education is sometimes missed.

2.3.3 Engineering
School education is usually seen as preparation for later study in engineering through for example courses in mathematics, physics and, less often, Technological Studies. Organisations such as the Construction Industry Training Board can provide schools with interesting industry-related experiences – further developments of such experiences might be expected through A Curriculum for Excellence. A Scottish research project based at Glasgow University has recently been established to track youngsters from upper secondary through to undergraduate engineering courses.

2.3.4 Mathematics
LT Scotland continues to support developments in numeracy across Scotland. Our numeracy development officers have identified key issues that need support. Obviously we need to make progress towards a more interactive approach to teaching but we also need to promote numeracy as a core skill across the curriculum – certainly across other STEM subjects but also for example in the social sciences.

We have made some progress in promoting mathematics in context – recently through work on financial education. Falling rolls and increased teacher recruitment leading to smaller numbers in S1 and S2 mathematics (and English) should impact on attainment.

SUBMISSION FROM CAREERS SCOTLAND

Thank you for inviting Careers Scotland (SE) to contribute to the above Inquiry. Careers Scotland is the national all age career planning organisation, aligned to Scottish Enterprise and Highlands and Islands Enterprise. Since the Enterprise agencies have already responded to the Inquiry, this paper will focus on those themes which have a particular
relevance to career planning linked to the education and lifelong learning measures within the Strategy.

Relevant Themes within the Strategy

- Improving the adaptability of workers and enterprises and the flexibility of labour markets.
- Attracting more people into employment
- Investing in human capital through better education

Research evidence indicates that early investment in developing understanding, skills and attitudes gives a greater return than investment later in life and lays the foundation on which future efforts to improve adaptability and flexibility can be built.

School education
The need to help young people prepare for the challenges they will face in a rapidly changing world is reflected in the Scottish Executive’s Curriculum for Excellence (2004) – articulating a set of values, purposes and principles to guide the reform of school education for pupils aged 3 – 18 which aims to enable young people to develop key Capacities as Successful learners, Confident individuals, Responsible citizens and Effective contributors.

Enterprise in education
Since the publication of Determined to Succeed: a Review of Enterprise in Education (2002), there has been a sharper focus on enterprise in education in schools, leading to more young people having exposure to learning activities that help to develop an enterprising “can do” approach – contributing to the 4 capacities referred to above, and also to the pipeline of enterprising and innovative people who will grow the economy in the future.

Career education
Career education is one of the key strands of enterprise in education. Research undertaken by Intered Ltd in 2003 shows that there is a positive link between pupils who have a career goal, their engagement with learning and their actual academic attainment. This link holds true across all levels of academic ability and socio economic groups. In response to this, Careers Scotland has developed an online career education resource Career Box (Early Years, Primary, Secondary) that supports and fits with the Curriculum for Excellence and which is delivered partly by teachers and partly by CS staff. Last year CS staff delivered Career Box lessons to more than 200,000 young people and trained over 800 teachers to use the teachers’ resource.

The research also showed that pupils are more likely to engage with learning if they can see the relevance of what they are learning and the potential applications of their learning, so many Career Box lessons make use of “world of work” contexts or projects with a business input. This serves to improve motivation to learn, make a connection between school subjects and a range of occupational applications – it can also broaden horizons and
raise aspiration through exposing young people to a range of opportunities that may not be visible to them in their own communities.

It is well understood that science, technology, engineering and maths (STEM) are important to future innovation and economic growth.

Careers Scotland delivers a number of projects which are designed to raise awareness of this, and other growth areas in the economy, to help secure a pipeline of people who have the skills necessary to contribute to Scotland’s competitiveness in an increasingly global environment.

**Career planning capability**

Careers Scotland’s products and services are designed to assist individuals to develop career planning skills that they can use time and time again throughout their working lives as their personal circumstances change and as the labour market requirements and opportunities change.

This is about giving them a method for career decision making, knowing how to go about implementing the decision once taken, and knowing how to review their options when faced with change. Some individuals can operate pretty independently if given access to appropriate career planning resources, whilst others may need more in depth support from Careers Scotland staff.

Careers Scotland has a joint work plan with Future Skills Scotland and a working agreement with the Skills for Business Network to ensure staff and products are informed by the best available labour market intelligence.

**Accessing Careers Scotland – people of all ages**

The proportion of people of working age in Scotland who are aged 45+ is set to increase over the coming decades, so it is important that we make the most of ALL the people resource that we have. This means investing in people who are out of work to bring them into employment and it means investing in people who are already in work, including those facing redundancy who often do not know how their skills could be applied in other sectors, to ensure they are able to respond flexibly to changing requirements and opportunities.

As an all age service, anyone can access career planning support through www.careers-scotland.org.uk, by calling a national telephone number, by attending Careers events or by calling at one of our public access Centres.

Careers Scotland has accessed ESF funding to pilot approaches which can then be mainstreamed or to stimulate awareness – eg development of career planning resources for people who are in work.

Last year, Careers Scotland supported 189,251 unique individuals, of whom 29,000 were adults. In terms of status, 52% of activity was with people still in education, 13% with people who were out of work and 35% with people already in work or in training. Additionally our Website has an average
66,000 visitors a month; last year over 54,000 individuals chose to register to access specific career related learning areas of the website.

**Closing the Opportunity Gap**

Scotland has an employment rate of 75% (89% for graduates). There are, however, groups who are traditionally underrepresented in employment terms and Scotland has a high number of 16 – 19 year olds who are not in employment education or training (NEET).

The Scottish Executive has recently published an Employability Framework which is designed to address this issue – Workforce Plus (all ages) and the NEET strategy (16 -19 year olds).

This places a responsibility on a whole range of agencies to work together to take a multi dimensional approach to bringing more people of all ages into work or learning that will improve their prospects of securing and sustaining employment.

Careers Scotland has made a commitment to helping reduce the number of young people who leave school and who go into a negative destination, through a range of programmes targeted at those young people deemed to be most “at risk” – NEET prevention activity.

Similarly, working with partner agencies, we are targeting a reduction in the number of 16 – 19 year olds who are already unemployed. Employability programmes such as “Activate” and WorkNet, allied to a personalised “case management” approach and close links with specialist agencies and with the SE Get Ready for Work and other training programmes, are showing an increase in positive outcomes for individuals.

The Executive has recently resourced Careers Scotland to deliver a number of “enhanced resource” pilots in the geographic areas which are NEET “hotspots”, and to work with Colleges and schools to improve the collaboration between these sectors, particularly in relation to vocational education /Skills for Work courses.

Job Centre Plus delivers a number of programmes aimed at supporting unemployed people, including those on Incapacity Benefit, to get into work – where these individuals need assistance with career decision making, they may be referred by JC+ to Careers Scotland.

**Lifelong Learning**

The Scottish Executives Lifelong Learning Strategy involves all the key agencies in Scotland who have a part to play in ensuring availability of appropriate learning which is geared both to individual and to labour market needs. The recent merger of the Further and Higher Education Funding Councils into a single entity should assist in relation to fitness for purpose, progression and articulation. Other key developments include the SQA portfolio of awards, the SCQF Framework and the review of funding for learners. Scottish Enterprise is currently reviewing its Skills and Learning
Strategy to ensure alignment with the needs of priority industries, and the Skills for Business network has a key role in articulating sectoral skill needs. Learn direct Scotland maintains a learning opportunities database that is easily accessible to the public. Careers Scotland’s services are accessible to help those who need help with making or implementing career decisions including connecting them with learning/skill development opportunities that will improve their employment prospects. Future Skills Scotland provides labour market intelligence that can be used to inform the policies and practices of all the above agencies – Scotland is small enough for these agencies to be well connected, supporting a more coherent approach to Lifelong learning than might be feasible in some countries.

SUBMISSION FROM NESTA

In summary, we believe that the current targets for innovation in the EU, while not unimportant, only represent a small part of the UK’s, and Scotland’s, innovative activity. We recommend that Scotland consider developing a tailor-made innovation policy that recognises the broader spectrum of innovation occurring within the nation, and seeks to build capacity for innovation in those areas most relevant to Scotland, its strengths, and its objectives. As countries and regions around the world seek a competitive edge through the exploitation and diffusion of ideas, Scotland is well-placed to lead the world in developing a more sophisticated and integrated approach to innovation.

Innovation is not just R&D
NESTA’s recent research report, The Innovation Gap, challenges the traditional perception of the innovative performance of the UK nations and explains how policy needs to change to reflect this revised view. The report argues that the UK is actually more innovative than traditional indicators show, and that innovation policy needs to develop from a focus on science and technology to support the full range of innovation in the UK.

For example, while it is the case that per capita expenditure on R&D in the UK nations lags behind that in other leading European nations, this ignores the different composition of the UK’s economy towards service sectors, where formal research and development is far less important than other forms of investment in innovation.

Such indicators as R&D spending are based on a ‘pipeline’ view of innovation that does not reflect how innovation happens in the vast majority of the UK economy. They fail to capture the true innovative activity in sectors such as financial services, retail, consultancy and the public sector. Together, these account for around 94% of the UK economy. Even in the sectors that the traditional indicators do represent, they fail to accurately reflect the level of innovative activity.
There are also technical reasons why the UK’s innovative performance is downplayed in such analyses. For example, the internationally-agreed definition of R&D excludes development activities such as petroleum exploration even though these generate innovations and new scientific discoveries. This example is of course particularly pertinent to the UK with its large oil exploration sector. This sector spends on average £1.11 billion per year in the United Kingdom Continental Shelf (UKCS) area alone on activities that could be interpreted as the sector-specific equivalent of R&D. Including this expenditure alone as R&D would increase the UK’s business R&D intensity by more than 11 per cent (increasing it from 1.8 to 2 per cent).

Any targets for R&D need to be sensitive to context, achievable, and meaningful
As a result of the problems with traditional indicators, there should be a greater clarity regarding public interventions in support of private R&D, in particular in the area of target-setting. Interventions such as tax credits for R&D can have a number of motivations, from encouraging the development of new products and processes, enhancing the competitive advantage of domestic businesses against foreign competition, to helping the development of emerging high-tech industrial sectors.

Innovation is an economy-wide and society-wide activity, not just present in high-tech manufacturing
We welcome the Inquiry’s breadth, encompassing not just R&D but also employment, labour market flexibility, and education. We would regard these issues as being closely related, and vital to creating not just an innovative economy, but an innovative society.

High-tech sectors, while important, represent only a small percentage of even the ‘leading’ innovative economies in Europe. The efforts so far in Scotland to increase the commercialisation of university research, boost interaction between industry and the science base, and to support cutting-edge R&D in businesses, are necessary but not sufficient.

Innovation should not be confined to scientific and technological invention, important though this is. Innovation also needs to be considered as a broadly-spread capacity to develop new ideas and to then successfully exploit them to deliver social or economic value. Hence the processes of commercialisation, dissemination and exploitation can be equally important, including the use of innovations developed elsewhere.

There needs to be a broader set of interventions (and targets)
An integrated Scottish national mission around innovation must include industry, government and educational institutions working together within a
coherent system of innovation. The topics considered must range from the framework for education and the role of educational institutions to the role of government in promoting innovation in all sectors of our economy. It will be necessary to develop a stronger understanding of how innovation works in Scotland, and what is wanted from innovation in the future to meet national needs and challenges. This analysis should form the basis of a mature, nuanced innovation policy agenda that will deliver real results for Scotland over the next decade and beyond. From this, a broader set of interventions might be considered that are more closely appropriate to the Scottish context.

**Need to enhance education and training for innovation**

However, what is certain is that education and training will play an important role in developing Scotland’s innovative capacity and performance. This will matter most in three key respects. First, the ability of the Scottish education system to generate a flow of highly able graduates from science, engineering and technology-related (SET) disciplines must be maintained and enhanced. Such graduates are valuable for an innovative society, whether or not they work in direct-SET areas, since they have been trained to be analytical, evidence-based, and to solve problems. Second, the still significant degree of educational under-achievement must continue to be challenged, since low intermediate skills undermine the national capacity to absorb and exploit innovation. Third, the Scottish education system must be able to support and encourage the wider set of skills and attributes that innovation relies on, such as creativity and the ability to work collaboratively. The principles underlying A Curriculum for Excellence and programmes of work like Determined to Succeed provide the basis for developing these skills.

**This represents an opportunity for Scotland to develop a world-leading strategy for innovation**

Most national approaches to innovation are remarkably similar in their focus on advanced scientific and technological invention. Scotland now has the opportunity to develop a broad-based innovation policy that recognises and builds upon its unique strengths, and focuses on the outcomes from innovation that reflect its national priorities.

**SUBMISSION FROM SCOTTISH SCIENCE ADVISORY COMMITTEE**

We would like to focus on five issues, in addition to any the Committee would like us to address. Although the issues are cast in Scottish terms, all have a European dimension. Additional issues that the Committee might want to discuss include the European Institute of Technology, the 7th Framework Programme, the European Research Council, mobility and young scientists, etc.

**University contributions to innovation**

There is an implicit assumption in many of the initiatives taken by national or
local governments or by individual universities, that the latters’ most effective contribution to innovation is based on discoveries in university laboratories, followed by disclosure, patenting and licensing of the technology, leading to the creation of technology-based enterprises, often by the inventors themselves. There is strong evidence that patenting and licensing are not the most effective pathways through which academic activity contributes to innovation but that the recruitment by business of PhD graduates and leading researchers, consultancy, scrutiny of the open literature and collaborative research are, taken together, more influential. But is it only if we take a broad view of the nature of business transformations that these strengths can be effectively exploited. These range from direct exploitation of discoveries, through the creation of knowledge economy clusters, to the attraction of business from elsewhere because of local research strengths, diversification of existing declining business into new markets whilst relying on core technologies, to shifting the technological base whilst remaining in the same market. This spectrum of transformations needs a spectrum of institutions, from the internationally competitive research-intensive to the regionally focused. The Economic Development Sub-committee of the Scottish Funding Council’s Research Committee is studying this issue.

Key drivers of behaviour – the RAE

The criterion of basic research excellence has in practice dominated HEI responses to the RAE, with the effect that the spectrum of research and research-related activity amongst them has been narrower and less diverse than is desirable. At the same time, a relatively small proportion of institutions capture the lion’s share of funding. A system should be developed that rewards a greater range of activity, that permits some HEIs or departments to compete at the highest international levels of excellence but also recognizes that some are or could be more highly coupled into their regions so that the system was better able to address the wide range of innovation-relevant roles.

Stimulating demand

A great deal of effort has gone into improvement in the supply side of the research base in Scotland and the UK, in improving excellence and stressing and rewarding the contribution of research to innovation. Whilst this is important, what is more important is to stimulate demand from businesses for research and skills. Government exhortation will not be enough. A more powerful mechanism would be to use the power of public procurement as an incentive for business to exploit the research base. Governmental procurement in Europe tends to be risk-averse, and governments are late adopters of new technology. The value for money criterion tends to be interpreted as lowest cost now rather than best value in the long term. Normal procurement processes tend to select well-tried, low cost technologies from major suppliers, which militate against novel technologies, small and medium enterprises (SMEs), and ignore and fail to include in their accounting the role that procurement could play in stimulating innovation. If governments across Europe were to develop
processes for using a proportion of their R&D procurement budgets to stimulate, through purchase-contracts rather than grants, the development of tomorrow’s technology, it would boost the early growth rate of knowledge-intensive companies, reduce the rate of company failure, encourage them to draw on the research base, enhance interaction between companies and universities, stimulate investment in the knowledge sector by increasing the potential profitability of SMEs, and be a vital tool in Europe’s efforts to compete with the increasingly technologically sophisticated, but still low wage economies of China and India. It is difficult to see how the Lisbon agenda target of 3% of GDP invested in research can be reached unless this mechanism is effectively exploited. Since SMEs account for ca. 80% of employment, their role is also crucial for the growth and jobs that are main targets of the renewed Lisbon agenda.

It is sometimes said that SME growth is dependent upon early availability of investment finance. We take the view that although this is important, investment finance is in principle not in short supply. It is the early availability of contracts for products and services that is more crucial and the determinant of early growth, where a company’s products or services can be market tested and adapted and diversified to demand. Such a demand environment is also one that minimises the rate of early company failure.

The Commission’s ten action points

Commission has emphasized the current primacy of stimulating innovation if the European Union’s economic and social priorities are to be met. In response to this, the Commission has proposed “a broad based innovation strategy for Europe that translates investments in knowledge into innovative products and services”. The strategy proposes 10 priority actions:

I. Establish innovation-friendly education systems
II. Establish a European Institute of Technology
III. Create a single and attractive labour market for researchers
IV. Strengthen research-business links
V. Foster regional innovation through cohesion policy programmes
VI. Reform R&D and innovation state-aid rules
VII. Enhance intellectual property rights protection
VIII. Review copyright levies for digital products and services
IX. Develop a strategy for innovation friendly lead markets
X. Stimulate innovation through procurement

We welcome the Commission’s communication, but would suggest that the strategy’s headlines in so far as they refer to the universities should be supply, demand and interaction. It is important to distinguish those actions (see paragraph 24) which are first order drivers of behaviour that will create a strong response, from those that are behavioural responses to the driver and are unlikely to be realised by persuasion alone, from those that are useful enabling actions. We regard procurement (x) [with (vi) as a valuable corollary] as a first order, demand-side driver of behaviour, which would stimulate interactions such as those in (i) and (iv). (iii) would be a valuable
supply-side development, and (vii) and (viii) would be useful enabling mechanisms. We have argued before that the EIT (ii) as presently conceived is misconceived. We are also skeptical about action (ix) (paragraph 23) as currently described.

**The Service Sector**

The nature, shape and size of business enterprises in the UK and Scotland has changed dramatically over the last twenty-five years. The service sector now makes up some 80% of UK GDP, and financial services is a huge recruiter of top scientific, engineering and mathematical talent. Such graduates in this sector effectively do a great deal of “research” on the job, though they do not refer to it in these terms, they are fundamentally concerned with “knowledge” and understanding. The Service sector is immensely innovative but is poorly served by the Science Base in general and Research Councils in particular. There seems to be a void in policy towards supporting and encouraging this major and growing part of our economy increasingly producing the value added upon which we all depend. Our models and language are locked into the historic [19th and 20th century] industrial framework. Businesses in this growing sector do not use the words “Science” and “Research” and hence don’t attract tax credits or any other focus coming from the Science base. So is therefore a major issue for us: can we create links with the service sector and explore whether there are serious prospects of developing direct links between the research base and the sector. There are signs that some senior members of the booming financial sector in Scotland would welcome such an approach.

**BERD statistics**

BERD is an input measure not an output measure. It currently fails to capture two key areas of research:

- Business-funded R&D by outside contractors such as universities, crucially important in an international setting where international companies increasingly scan the best research world-wide rather than depend on internal resources. We need to understand how well Scotland is performing in this mode, and if not well, what the reasons for it may be.
- Many part of the service sector are knowledge-intensive. It is not captured as research and are missing from the statistics.

**SUBMISSION FROM EQUAL OPPORTUNITIES COMMISSION (EOC) SCOTLAND**

1. **Introduction**

The Equal Opportunities Commission (the EOC) is a statutory body whose duties are to work towards the elimination of sex discrimination and to promote equality of opportunity between men and women generally. The EOC welcomes the opportunity to contribute to the European and External
Relations Committee's Inquiry into the Lisbon Strategy for Growth and Jobs. Our input focuses on how best the Scottish Executive can contribute to achieving the targets of the Lisbon Strategy in terms of delivering more and better jobs, an adaptable workforce, and better education and skills. Our comments refer to the devolved elements of the UK National Reform Programme.

2. Building Scotland's workforce – successes and challenges
Women have the education and skills to make a major contribution to economies across Europe, but discrimination, stereotyping and the difficulties of combining work and caring are still preventing them from realising their full potential. Women are increasingly well educated – in 2003 58% of new graduates in Europe were women – but women’s skills are still under-used, with only 55% of women in Europe being in paid work compared to 71% of men.

In comparison with the Europe-wide figures, Scotland does well, with 68% of women aged 16-64 and 78% of men in employment according to 2005 figures. Scottish women excel in education at all levels. Many Scottish families rely on women’s income. As a whole, Britain has the highest workforce participation rate for women in Europe, with the exception of the Scandinavian countries. Increasing numbers of people are working flexibly and this growth, largely driven by women, should be an asset as we move towards a 24/7 economy. In Scotland 55% of women employees, and 22% of men, now use one or more flexible working arrangement, including part-time working, flexitime, annualised hours, job-share and homeworking.

However, a range of barriers exist for women in the workforce at all levels. Research by Scottish Enterprise and Highlands and Islands Enterprise revealed that women run 10% of companies in Scotland and employ just 2.2% of the workforce. In addition, the sectors in which women run businesses are highly segregated – women dominate in health, education, wholesale and retail (Scottish Enterprise/Highlands and Islands Enterprise, 2005). There is also evidence to suggest that business start-ups by women focus on local consumers. In addition, self-employed women are under-represented in technology based industries and the professions (SE/HIE, 2005).

These figures are of concern to the EOC, especially since the Global Entrepreneurship Monitor (GEM) states that the proportion of women starting businesses is a key indicator of the overall level of entrepreneurial activity in national economies (GEM, 2001). Involving women at all levels of business in Scotland will help Scotland to compete globally.

Examples of gender aware initiatives which would support women in business include: grants for part time enterprises, promotion of non-traditional business sectors to girls and women, promoting women role models and promoting social enterprises as a business model. The Scottish Executive must encourage more proactive work to bring women into business activity.
EOC research shows that old fashioned thinking about work leads men, who mostly work full time, working some of longest hours in Europe, while almost half of employed women work part-time. In Scotland average hourly earnings for women working full-time are 12% lower than for men working full-time, and for women working part-time hourly earnings are 33% lower.

3. The under-utilisation of the skills of women already in work
The EOC has welcomed the UK NRP's emphasis on tailored and appropriate help for those without work, both unemployed and inactive, to prevent their long-term detachment from the labour market, but we would also like to see policies address the fact that many women already in work are working below their education and skill level and some occupations remain virtually closed to them. Low productivity continues to be a major challenge for the Scottish economy and our evidence suggests that this is in part due to the under-utilisation of the skills of women already in work, but working part-time.

Across Europe just under a third of working women are part-time, but part-time work is too often still associated with low pay, low skill and low productivity. The fact that the UK (and Scotland in particular) has one of the highest employment rates for women in the EU is largely due to the high proportion of women who work part-time. Many part-time workers are mothers or women caring for adult dependents who cannot find work that fits both their qualifications and skills and their caring responsibilities.

The EOC's general formal investigation into part-time and flexible working was able to quantify the extent of the under-utilisation of women working part-time in Britain. 4 out of 5 part-time workers, equivalent to 5.6 million people, or a fifth of the entire working population, are working below their potential: 3.6 million of these have actually used higher qualifications or skills or had more supervision/management of staff in previous jobs than now. A further 2 million believe they could 'easily work at a higher level'. 2.4 million part-time workers say they are doing lower skilled work than they are capable of because it is less demanding and stressful, a down-skilling that might not have been needed if flexible working were available at the higher level or if the long hours common in full-time working had been reduced. Nearly 3 million of those part-timers working below their potential are women aged 25-54 (a period vital for their careers and income – including the building up of pension entitlement,) and about 1.25 million are aged over 55⁹. Enabling people with caring responsibilities, people working part-time and older workers to reach their full potential should be a key focus of the UK NRP and the Scottish Executive's work towards the Lisbon Strategy targets.

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⁹ Working below potential: women and part-time work Grant et al, Centre for Social Inclusion, Sheffield Hallam University, EOC, 2005. ESF funded
The solution to the problem of occupational downgrading for women with caring responsibilities lies not only in providing childcare and care services for older people, but also in opening up higher skilled, higher paid and more senior jobs to part-time and flexible work. The Scottish Executive could show leadership by encouraging more senior part-time and flexible positions within the public and private sectors, and sharing models of good practice.

**Black and minority ethnic women**

The UK Government has set itself the challenge of reaching an 80 per cent employment rate. To achieve this, a further 2.5 million people would need to be helped into work. The Government has also set itself the challenge of closing the ethnic minority employment gap. The Scottish Executive has recently established a strategic group to look at ethnic minorities in the labour market, which is likely to set a similar target.

Evidence obtained in the course of the EOC general formal investigation into the pay and progression of minority ethnic women suggests that opening up opportunities to BME women will be crucial to the attainment of both the overall employment target and closing the ethnic minority employment gap. The 2001 Scottish Census tells us that while 60% of white women are in/seeking work, only half of Chinese or Indian women, and a third of Pakistani/Bangladeshi women are economically active.

Looking at it from a slightly different angle, in terms of educational achievement, ethnic minority girls are doing increasingly well and they are more likely to carry on into higher education. Given that ethnic minority women now make up 5% of the Scottish student population, they are a key group to help deliver the aspirations of the Lisbon Strategy – if we give them the opportunity to get jobs that match their qualifications.

**Extending working lives**

By 2007, for the first time ever, there will be more people aged over 65 than under 16 in the population. Many people over 50 leave the workforce early, often involuntarily and often without adequate provision for their retirement. The EOC’s Investigation into Part-time and Flexible Working showed that across Britain there may be as many as a million over 50s who would return to work if the conditions were right i.e. they could work flexibly\(^\text{10}\). More people are going to be working longer and retiring later, while many others will want to work reduced hours before and after the statutory retirement age. Unless we enable older workers to explore more flexible work arrangements the Scottish economy will lose out because their talents, skills and experience will not be used.

Demographic trends also strongly indicate that the pressure of care – who needs it, who provides it, and who pays for it – will grow significantly over the next 20 years. The EOC has argued that we need to reform care

provision to create an infrastructure that meets the needs of the reality of women's and men's daily lives, to reflect the changing roles that women and men play – with fathers doing more childcare and 40% of carers being male. Our vision is for parents and carers to be able to expect to get the same level of high quality, affordable, flexible care and advice wherever they live.

Occupational segregation
We welcome the recognition in the NRP of the importance of tackling occupational segregation and gender stereotyping in jobs and skills. However this has not been matched by visible change in practice. The EOC’s investigation into occupational segregation discovered a clear correlation between the employment sectors where women were under-represented and skill shortages, showing that occupational segregation was causing employers to miss out on a huge potential pool of labour with which to plug their skills gaps. We called for a National Strategy on occupational segregation and we made specific recommendations for actions to deliver change. Since then we have been working closely with the Scottish Executive Enterprise, Transport and Lifelong Learning Department and will continue to do so, but we have particularly welcomed the extent to which the Women and Work Commission has endorsed the findings and recommendations of our Investigation. We look forward to the Scottish Executive’s response to the Commission, which we hope will set out measurable actions to tackle segregation and stereotyping in the Scottish labour market.

Education and training can play a vital role in tackling gender stereotypes and promoting equal opportunities. Research has shown that education and training continues to produce gendered outcomes. School pupils continue to choose their subjects, work experience placements and subsequent careers partly because of out-dated gender stereotypes. In 2003 the EOC commissioned research into pupils’ work experience choices, and found that:

- 38% of girls did placements in a nursery, playgroup or primary school, compared with 7% of boys
- 25% of boys did placements in traditional trades (motor vehicle, plumbing, joinery) compared with 1% of girls
- 9% of girls and no boys did placements in hairdressers.

The Gender Equality Duty
From April 2007 the Gender Equality Duty will require all public bodies to pay due regard to the elimination of discrimination and harassment and the promotion of equality between men and women.

The new gender duty will not only relate to the employment practices of public bodies, but also their policies and services. Scottish Executive policies, legislation and services will need to take into account any different impact on women and men. The gender equality duty can help achieve the Lisbon Strategy targets by requiring the Executive and its delivery agencies

11 Shaping a Fairer Future Women and Work Commission, DTI, 2006
to tackle the barriers to women’s and men’s employment and productivity which have been set out above.

**Conclusion**

We would like to see the Scottish Executive and the UK Government giving greater recognition to the need to apply a gender lens to the labour market aspects of the Lisbon Strategy. It is not inevitable that the skills, abilities and productive potential of women should be so under-used. There are clear benefits to the economy in tackling the factors that restrict them and it would be helpful if government at all levels could explicitly recognise these. More equal treatment of women in the labour market will increase the pool of talent available to business and help to reduce skill shortages. Organisations will benefit from a higher quality workforce, improved retention rates, a greater return on their investment in women’s training and development, and reduced recruitment costs. When there is more support to help balance work and caring, families will experience less stress and a better quality of family life. When more women who work can reach their full potential, their higher earnings will help reduce child poverty as well as increase their own income in retirement. Fewer restrictions on the productivity of women who want to work will contribute to a higher-performing economy, delivering better value from women’s education and skills. Working families will be better supported in bringing up the next generation, the workforce of the future that we all need for our prosperity and welfare.